

# UMSOBOMVU 400KV OVERHEAD LINE TURN-IN SYSTEM NEAR MIDDLEBURG (EASTERN CAPE) AND NOUPOORT (NORTHERN CAPE)

*DFFE Reference Number: 14/12/16/3/3/2/2170*

## DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

PREPARED FOR:



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**Report Title: Umsobomvu 400kV Turn-in System – Environmental Impact Assessment Report**  
**Report Version: Draft**  
**Department of Forestry, Fisheries and the Environment (DFFE) Reference Number: 14/12/16/3/3/2/2170**  
**CES Project Code: P40700009**

**Environmental Assessment Practitioner (EAP) Details:**

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**EAP Declaration**

- ✦ I act as the independent environmental practitioner in this application;
- ✦ I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- ✦ I declare that there are no circumstances that may compromise my objectivity in performing such work;
- ✦ I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- ✦ I will comply with the Act, Regulations and all other applicable legislation;
- ✦ I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- ✦ I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- ✦ I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;
- ✦ All of the particulars furnished by me in this form are true and correct; and
- ✦ I will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations.

ENVIRONMENTAL CONSULTANT	RESPONSIBILITY	DATE
Alan Carter	<i>EAP, Project Leader &amp; Author</i>	October 2022
Caroline Evans	<i>Project Manager &amp; Co-Author</i>	October 2022
Robyn Thomson	<i>GIS Mapping</i>	October 2022

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# THE CONTENTS OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT

## CONTENT OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT (APPENDIX 3, NEMA EIA REGULATIONS)

3. (1) An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include –

	CONTENT	SECTION OF THIS REPORT
(a)	<b>Details of –</b>	<i>Chapter 1 and Appendix B</i>
(i)	The EAP who prepared the Report.	
(ii)	The expertise of the EAP, including a <i>curriculum vitae</i> .	
(b)	<b>The location of the development footprint of the activity on the approved site as contemplated in the scoping report, including –</b>	<i>Chapter 2</i>
(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)	<b>A plan which locates the proposed activity or activities applied for as well as the associated infrastructure at an appropriate scale, or, if it is –</b>	<i>Chapter 2</i>
(i)	<del>A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken.</del>	
(ii)	<del>On land where the property has not been defined, the coordinates within which the activity is to be undertaken.</del>	
(d)	<b>A description of the scope of the proposed activity, including –</b>	<i>Chapter 2</i>
(i)	All listed and specified activities triggered and being applied for; and	
(ii)	A description of the activities to be undertaken, including associated structures and infrastructure.	
(e)	<b>A description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context.</b>	<i>Chapter 4</i>
(f)	<b>A motivation for the need and desirability for the proposed development, including the need and desirability for the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report.</b>	<i>Chapter 3</i>
(g)	<b>A motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report.</b>	<i>Chapter 3 and Chapter 7</i>
(h)	<b>A full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including –</b>	<i>Chapter 7</i>
(i)	Details of the development footprint alternatives considered.	<i>Chapter 7, Chapter 8, Chapter 9 and Chapter 10</i>
(ii)	Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs.	<i>Chapter 11 and Appendix A</i>
(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.	<i>Chapter 11, Appendix A and Appendix H</i>
(iv)	The environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects.	<i>Chapter 5 and Chapter 6</i>
(v)	The impacts and risks identified 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	<i>Chapter 9</i>

	(cc) Can be avoided, managed or mitigated.	
(vi)	The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks.	
(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)	The possible mitigation measures that could be applied and level of residual risk.	
(ix)	If no alternative development footprints for the activity were investigated, the motivation for not considering such.	
(x)	A concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report.	
<b>(i)</b>	<b>A full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including –</b>	
(i)	A description of all environmental issues and risks that were identified during the environmental impact assessment process.	
(ii)	An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adopted mitigation measures.	
<b>(j)</b>	<b>An assessment of each identified potentially significant impact and risk, including –</b>	
(i)	Cumulative impacts	
(ii)	The nature, significance and consequences of the impact and risk	
(iii)	The extent and duration of the impact and risk.	
(iv)	The probability of the impact and risk occurring.	
(v)	The degree to which the impact and risk can be reversed.	
(vi)	The degree to which the impact and risk may cause irreplaceable loss of resources.	
(vii)	The degree to which the impact and risk can be mitigated.	
<b>(k)</b>	<b>Where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;</b>	
<b>(l)</b>	<b>An environmental impact statement which contains –</b>	
(i)	A summary of the key finding of the environmental impact assessment.	
(ii)	A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers	
(iii)	A summary of the positive and negative impacts and risks of the proposed activity and identified alternative.	
<b>(m)</b>	<b>Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation</b>	
<b>(n)</b>	<b>The final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment</b>	
<b>(o)</b>	<b>Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation</b>	
<b>(p)</b>	<b>A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.</b>	
<b>(q)</b>	<b>A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation</b>	

Chapter 8, Chapter 9 and Chapter 10

Chapter 12

<b>(r)</b>	<b>Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised</b>	
<b>(s)</b>	<b>An undertaking under oath or affirmation by the EAP in relation to –</b>	<i>Chapter 13</i>
(i)	The correctness of the information provided in the report.	
(ii)	The inclusion of comments and inputs from stakeholders and I&APs.	
(iii)	The inclusion of inputs and recommendations from the specialist reports where relevant; and	
(iv)	Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	
<b>(t)</b>	<b>Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.</b>	
<b>(u)</b>	<b>An indication of any deviation from the approved scoping report, including the plan of study, including –</b>	<i>None at this stage</i>
(i)	Any deviation from the methodology used in determining the significance of potential environmental impacts and risks	
(ii)	A motivation for the deviation.	
<b>(v)</b>	<b>Any specific information that may be required by the competent authority.</b>	<i>Throughout this Report</i>
<b>(w)</b>	<b>Any other matters required in terms of section 24 (4) (a) and (b) of the Act.</b>	<i>None at this stage</i>

## ENVIRONMENTAL IMPACT ASSESSMENT TEAM

<b>Environmental Consultants</b>	<b>Alan Carter</b> , EAP, Project Leader & Author <i>CES</i>
	<b>Caroline Evans</b> , Project Manager & Co-Author <i>CES</i>
	<b>Robyn Thomson</b> , GIS Mapping <i>CES</i>
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<b>Ecological Specialists</b>	<b>Nicole Wienand</b> , Ecological Specialist (flora) <i>CES</i>
	<b>Elena Reljic</b> , Ecological Specialist (terrestrial fauna) <i>CES</i>
<b>Heritage Specialist</b>	<b>Gavin Anderson</b> , Archaeological Specialist <i>Umlando</i>
<b>Paleontological Specialist</b>	<b>John Almond</b> , Paleontological Specialist <i>Natura Viva</i>

## TABLE OF ACRONYMS

<b>CLO</b>	Community Liaison Officer
<b>CV</b>	<i>Curriculum Vitae</i>
<b>DAFF</b>	Department of Agriculture, Forestry and Fisheries
<b>DEANC</b>	Department of Environmental Affairs and Nature Conservation
<b>DEDEAT</b>	Department of Economic Development, Environmental Affairs and Tourism
<b>DFFE</b>	Department of Forestry, Fisheries and the Environment
<b>DM</b>	District Municipality
<b>DMR</b>	Department of Mineral Resources
<b>DoE</b>	Department of Energy
<b>DWS</b>	Department of Water and Sanitation
<b>EA</b>	Environmental Authorisation
<b>EAP</b>	Environmental Assessment Practitioner
<b>ECPHRA</b>	Eastern Cape Provincial Heritage Resources Authority
<b>EIA</b>	Environmental Impact Assessment
<b>EIR</b>	Environmental Impact Report
<b>EMPr</b>	Environmental Management Programme
<b>FEPA</b>	Freshwater Ecosystem Priority Area
<b>IDP</b>	Integrated Development Plan
<b>IPP</b>	Independent Power Producers
<b>IRP</b>	Integrated Resource Plan
<b>ISCW</b>	Institute for Soil, Climate & Water
<b>kV</b>	Kilovolt
<b>LM</b>	Local Municipality
<b>LSA</b>	Later Stone Age
<b>MPRDA</b>	Mineral and Petroleum Resources Development Act
<b>MSA</b>	Middle Stone Age
<b>NEMA</b>	National Environmental Management Act
<b>NEM:BA</b>	National Environmental Management: Biodiversity Act
<b>NEM:AQA</b>	National Environmental Management: Air Quality Act
<b>NEM:WA</b>	National Environmental Management: Waste Act
<b>NERSA</b>	National Energy Regulator of South Africa
<b>NFEPA</b>	National Freshwater Ecosystem Priority Areas
<b>NGI</b>	National Geospatial Information
<b>NHA</b>	National Heritage Act
<b>NPAES</b>	National Protected Areas Expansion Strategy
<b>NSBA</b>	National Spatial Biodiversity Assessment
<b>NWA</b>	National Water Act
<b>PPP</b>	Public Participation Process
<b>QDS</b>	Quarter Degree Square

<b>REIPP</b>	Renewable Energy Independent Power Producers
<b>SAHRA</b>	South African Heritage Resource Agency
<b>SANBI</b>	South African National Biodiversity Institute
<b>SCC</b>	Species of Conservation Concern
<b>SDF</b>	Spatial Development Framework
<b>SEZ</b>	Special Economic Zone
<b>ToR</b>	Terms of Reference
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WEF</b>	Wind Energy Facility
<b>WMA</b>	Water Management Area
<b>WRB</b>	World Reference Base



## GENERAL SITE INFORMATION

FARM NAME	21 DIGIT SG NUMBER	PORTION/FARM NO.	PROVINCE
Uitzicht	C04800000000000300002	Farm 3, Portion 2	Eastern Cape
	C04800000000000300004	Farm 3, Portion 4	Northern Cape
	C04800000000000300006	Farm 3, Portion 6	Northern Cape
	C04800000000000300008	Farm 3, Portion 8	Eastern Cape and Northern Cape
Elands Kloof	C030000000000013500000	Farm 135, Remaining Extent	Northern Cape

SPECIALIST FIELD	SENSITIVITY RATING (WITH REASONS)	COMMENT/MOTIVATION
Agriculture Theme	<b>SENSITIVITY:</b> <b>HIGH</b>  <b>REASONS:</b> Planted Pastures (isolated section in the northwest of the site)	As per the agreement between the developer and the landowner the siting of the overhead line pylons which cross over the small section of planted pastures in the northwest of the site, will be avoided. Pylon placement will not be allowed within HIGH sensitive agricultural land. To be included as a condition in the EIA and EMPr. <b>REPORT: Agricultural Report</b>
Animal Species Theme	<b>SENSITIVITY:</b> <b>HIGH</b>  <b>REASONS:</b> Aves-Neotis ludwigii Aves-Aquila verreauxii	An avifaunal impact assessment will be undertaken in accordance with the "Animal Species Theme" which is HIGH specifically due to the presence of Neotis ludwigii and Aquila verreauxii. Monitoring data from the surrounding wind energy facilities will be used to advise the correct placement of the OHL in accordance with sensitivity mapping. <b>REPORT: Avifaunal Impact Assessment</b>
Aquatic Biodiversity Theme	<b>SENSITIVITY:</b> <b>LOW</b>	<b>REPORT: No specialist study recommended</b>
Archaeological and Cultural Heritage Theme	<b>SENSITIVITY:</b> <b>HIGH</b>  <b>REASONS:</b> Within 50m of a Grade IIIc Heritage site	A heritage impact assessment will be undertaken in accordance with the "Archaeological and Cultural Heritage Theme" which is HIGH specifically due to the presence of a Grade IIIc heritage site. <b>REPORT: Heritage Impact Assessment</b>
Civil Aviation Theme	<b>SENSITIVITY:</b> <b>LOW</b>	<b>REPORT: No specialist study recommended</b>
Relative Defence Theme	<b>SENSITIVITY:</b> <b>LOW</b>	<b>REPORT: No specialist study recommended</b>

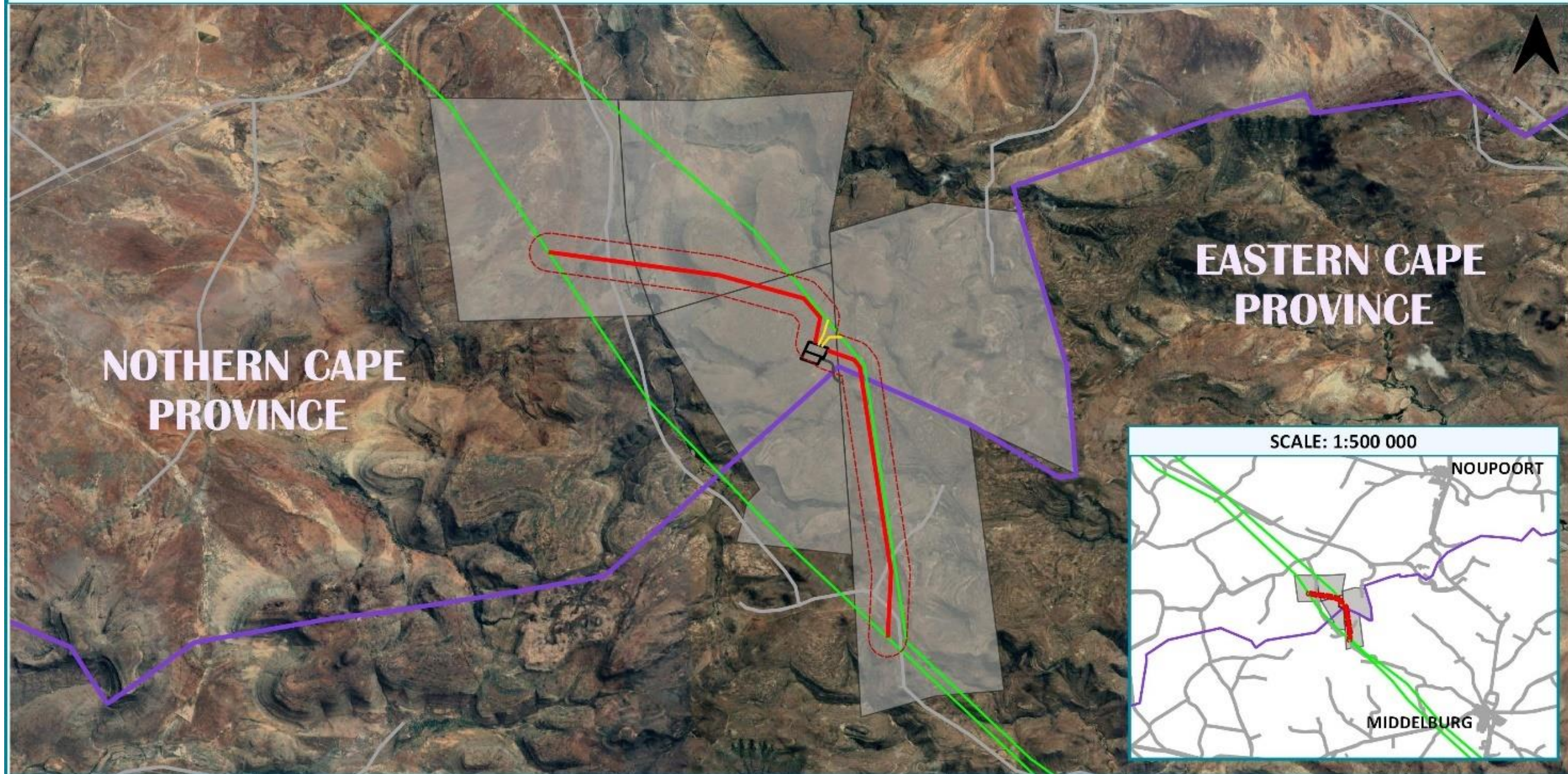
SPECIALIST FIELD	SENSITIVITY RATING (WITH REASONS)	COMMENT/MOTIVATION
Palaeontology Theme	<b>SENSITIVITY:</b> <b>VERY HIGH</b>  <b>REASONS:</b> Presence of features with a high palaeontological sensitivity	A palaeontological impact assessment will be undertaken in accordance with the “Palaeontology Theme” which is HIGH specifically due to the presence of features with a high palaeontology sensitivity. <b>REPORT: Palaeontological Impact Assessment</b>
Plant Species Theme	<b>SENSITIVITY:</b> <b>LOW</b>	An Ecological Impact Assessment will be undertaken to ensure that both the plant and terrestrial biodiversity theme are considered. While the “Plant Species Theme” is rated as LOW, CESs extensive experience in the area indicates that sensitive species are present on this site and must be accounted for and assessed. <b>REPORT: Ecological Impact Assessment</b>
Terrestrial Biodiversity Theme	<b>SENSITIVITY:</b> <b>VERY HIGH</b>  <b>REASONS:</b> Critical biodiversity area 1 Critical biodiversity area 2 Ecological support area	An Ecological Impact Assessment will be undertaken to ensure that both the plant and terrestrial biodiversity theme are considered. The “Terrestrial Biodiversity Theme is rated as VERY HIGH due to the presence of CBA 1, CBA 2 and ESAs. This will be assessed as part of the Ecological Impact Assessment. <b>REPORT: Ecological Impact Assessment</b>



# LOCALITY MAP

PROJECT NAME: PROPOSED UMSOBOMVU 400KV TURN-IN OVERHEAD LINE (OHL), EASTERN CAPE AND NORTHERN CAPE PROVINCES

MAP TITLE: LOCALITY MAP



## MAP DETAILS:










Drawn by: Nicole Wienand

Date: JULY 2021

Datum: WGS 84

SCALE: 1:60 000

## LEGEND:

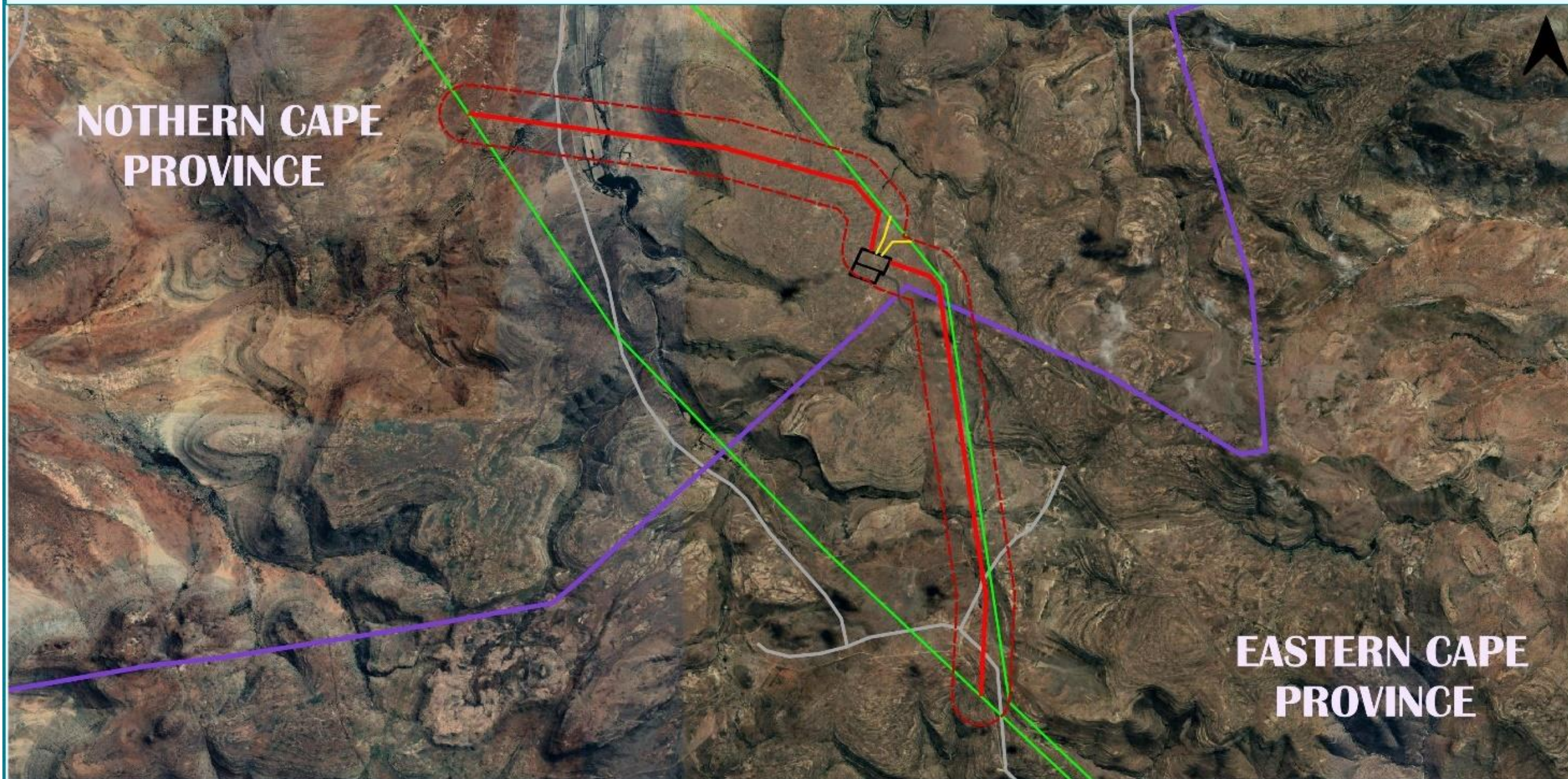
- |   |   |
|---|---|
|  Affected Properties   |  Approved Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): MTS Platform |
|  Provincial Borders  |  Approved Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): MTS Road     |
|  Proposed 400 kV Turn-in OHLs 300m Buffer  |  Existing Roads  |
|  Proposed 400kV Future Turn-in OHLs  |  Existing Eskom 400 kV distribution OHLs                                 |
|  Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): 400kV LILO - Existing First Turn-in |   |



# LAYOUT MAP

PROJECT NAME: PROPOSED UMSOBOMVU 400KV TURN-IN OVERHEAD LINE (OHL), EASTERN CAPE AND NORTHERN CAPE PROVINCES

MAP TITLE: LAYOUT MAP



## MAP DETAILS:









Drawn by: Nicole Wienand

Date: April 2022

Datum: WGS 84

SCALE: 1:40 000

## LEGEND:

- |   |   |
|---|---|
|  Provincial Borders  |  Approved Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): MTS Platform |
|  Proposed 400 kV Turn-in OHLs 300m Buffer  |  Approved Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): MTS Road     |
|  Proposed 400kV Future Turn-in OHLs  |  Existing Roads  |
|  Eskom Koruson SS (DFFE Ref 14.12.16.3.3.2.730.2): 400kV LILo - Existing First Turn-in |  Existing Eskom 400 kV distribution OHLs                                 |



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# 1 INTRODUCTION

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## 1.1 BACKGROUND INFORMATION

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines. Umsobomvu Wind Power is seeking the services from a South African-based EAP to carry out a full Scoping and EIA process, in the Northern Cape and Eastern Cape Provinces.

The proposed Umsobomvu 400kV Turn-in System will consist of the following:

- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS. The OHL will also include a jeep track for service and maintenance purposes.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2)

CES has been appointed by Umsobomvu Wind Power as the Environmental Assessment Practitioner (EAP) to conduct the necessary EIA Process and secure the required Environmental Authorisation (EA) for the project in terms of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) EIA Regulations (2014 and subsequent 2017 amendments).

## 1.2 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIR)

The objective of the EIA process, as set out by the 2014 EIA Regulations (as amended in 2017), is to, “through a consultative process-

- (a) 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;*
- (b) 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;*
- (c) 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;*
- (d) 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;*

- (e) 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;
- (f) 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;
- (g) Identify suitable measures to avoid, manage or mitigate identified impacts; and
- (h) Identify residual risks that need to be managed and monitored”.

## 1.3 NATURE AND STRUCTURE OF THIS REPORT

The structure of this report is based on Appendix 3 of GN R. 982 (326), of the EIA Regulations (2014 and subsequent 2017 amendments), which clearly specifies the required content of an Environmental Impact Assessment Report (EIR).

This report is the second of a number of reports which will be produced during the EIA Process. The Scoping Report, which was part of phase 1 of this process, has been completed and accepted by the department. The EIA phase (phase 2) includes an EIR (prepared in accordance with Appendix 3 of GN R. 982), specialist reports (prepared in accordance with Appendix 6 of GN R. 982) and an Environmental Management Programme (EMPr) (prepared in accordance with Appendix 4 of GN R. 982). This phase must also undergo Public Participation Process in accordance with Chapter 6 of GN R. 982.

### 1.3.1 STRUCTURE

The structure of this EIR is as per Table 1-1 below.

**Table 1-1: Structure of the EIR**

CHAPTER	HEADING	CONTENT
1	Introduction	Provides a brief overview of the proposed development, details of the EAP and project team and purpose of the EIA report.
2	Project description	Provides a description of the proposed development, the properties on which the development is to be undertaken and the location of the development on the property.
3	Need and Desirability	A description of the need and desirability/motivation for the project.
4	Legal and Policy Framework	Identifies all the legislation and guidelines that have been considered in the preparation of this EIA Report. In addition, this chapter includes a description of the EIA process.
5	Environmental and Social Baseline	Provides a brief overview of the bio-physical characteristics of the site and its environs that may be impacted by the proposed development, compiled largely from published information. Provides a brief overview of the socio-economic characteristics of the site and its environs that may be impacted by the proposed development, compiled largely from published information.
6	Alternatives	A description of the fundamental alternatives, incremental alternatives and the no-go alternative considered during all phases of the proposed development have been detailed in this Chapter.
7	Findings of the Specialist Reports	This chapter provides a summary of the key findings of each specialist assessment conducted as part of the EIA phase.

8	<b>Impacts and risks identified during the EIA phase</b>	Provides a description of the key impacts that have been identified by the project team and through discussions with I&APs thus far in the EIA Phase. In addition, this chapter covers the impacts identified by each specialist assessment. This chapter also includes mitigation measures that must be implemented.  The chapter also describes the cumulative assessment methodology and a summary of the cumulative impacts as identified by each specialist assessment and in general by the EIA phase. This chapter also includes mitigation measures that should be implemented.
9	<b>Umsobomvu 400kV OHL Sensitivity Analysis</b>	This chapter illustrates the site development sensitivity map that was developed based on specialist and general site information gathered, where the site was classified into areas of GO (unrestricted development), GO-BUT (conditional development) and NO-GO (no development).
10	<b>Public Participation</b>	This chapter describes the Public Participation Process (PPP) conducted to date and that will be conducted as part of the EIA phase.
11	<b>Conclusions and Recommendations</b>	Concludes the report and provides recommendations on the way forward.
12	<b>APPENDIX A</b>	CV of EAP Team
13	<b>APPENDIX B</b>	EAP Declaration
14	<b>APPENDIX C</b>	PPP Proofs
14	<b>APPENDIX D</b>	Comments and Response Report

### 1.3.2 ASSUMPTIONS AND LIMITATIONS

This report is based on currently available information and, as a result, the following limitations and assumptions are implicit–

- This report is based on a project description and site plan, provided to CES by the applicant, which has not been approved by DFFE at this stage of the project. The project description and site plan may undergo iterations and refinements before being regarded as final. A project description based on the final design will be concluded once DFFE has provided feedback on the layout provided in this report.
- Descriptions of the natural and social environments are based on limited fieldwork and available literature.
- It should be emphasised that information, as presented in this document, only has reference to the study area as indicated on the accompanying maps. Therefore, this information cannot be applied to any other area without a detailed investigation being undertaken.

## 1.4 DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

In fulfilment with the legislative requirements, the details of the Environmental Assessment Practitioner (EAP) and the environmental team that prepared this EIR are provided below.

### 1.4.1 DR ALAN CARTER (THE EAP, PROJECT LEADER AND AUTHOR)

Dr Alan Carter is an Executive and the East London Branch Manager at CES. He has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also certified ISO14001 EMS Auditor with the

American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years. He is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and through Environmental Assessment Practitioners Association of South Africa (EAPASA).

#### **1.4.2 Ms CAROLINE EVANS (PROJECT MANAGER & CO-AUTHOR)**

Caroline is a Senior Environmental Consultant with more than 8 years' experience and she is based in the Grahamstown branch. She holds a BSc with majors in Environmental Science (distinction) and Zoology, as well as a BSc (Hons) in Environmental Science (distinction) both from Rhodes University. Her undergraduate degree included both commerce and natural sciences. Caroline's honours dissertation evaluated the economic impacts of degradation of the xeric subtropical thicket through farming practices, focusing on the rehabilitation potential of the affected areas in terms of carbon tax. She has a broad academic background including statistics, economics, management, climate change, wetland ecology, GIS, rehabilitation ecology, ecological modelling and zoology. Caroline has a strong focus on renewable energy and South African policy and legislation related to development.

PLEASE FIND THE *CURRICULUM VITAE* ATTACHED AS APPENDIX B.



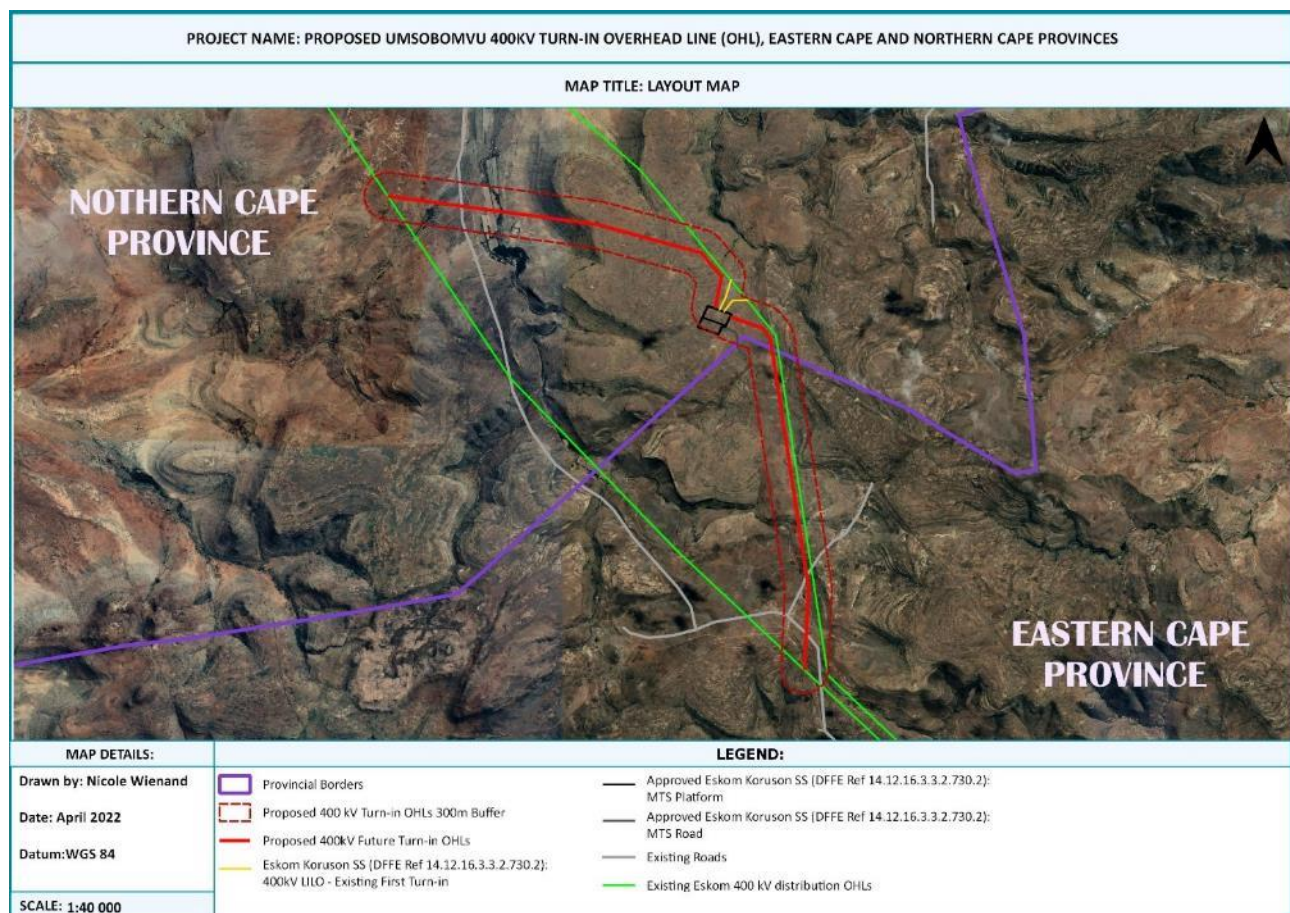
## 2 PROJECT DESCRIPTION

### 2.1 PROJECT LOCALITY

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines. Umsobomvu Wind Power is seeking the services from a South African-based EAP to carry out a full Scoping and EIA process, in the Northern Cape and Eastern Cape Provinces.

**Table 2-1: 21-Digit Surveyor General (SG) Codes of the affected properties.**

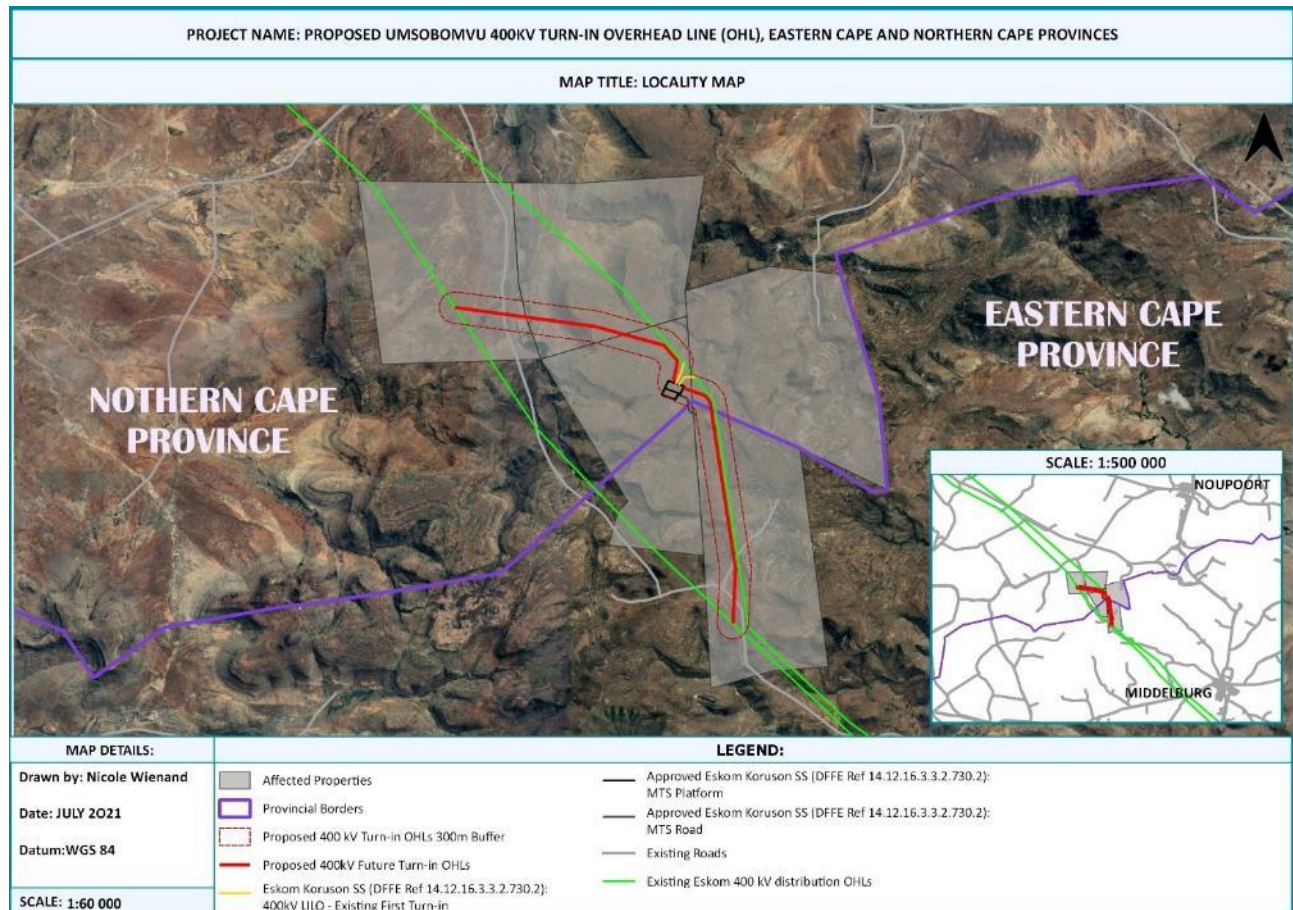
FARM NAME	21 DIGIT SG NUMBER	PORTION/FARM NO.	PROVINCE
Uitzicht	C048000000000003000002	Farm 3, Portion 2	Eastern Cape
	C048000000000003000004	Farm 3, Portion 4	Northern Cape
	C048000000000003000006	Farm 3, Portion 6	Northern Cape
	C048000000000003000008	Farm 3, Portion 8	Eastern Cape and Northern Cape
Elands Kloof	C030000000000013500000	Farm 135, Remaining Extent	Northern Cape



**Figure 2-1: Layout Map of the Proposed 400kV Turn-in System.**

**Table 2-2: Coordinate Points along the two 400kV Turn-in System OHLs.**

NO. IN FIGURE 2.1	CORNER POINT COORDINATES (DEGREES, DECIMAL MINUTES)	
1.	33° 34.658'S	25° 28.119'E
2.	33° 34.778'S	25° 28.295'E
3.	33° 34.908'S	25° 28.169'E
4.	33° 34.790'S	25° 27.991'E



**Figure 2-2: Locality Map of the Proposed 400kV Turn-in System.**

## 2.2 PROJECT DESCRIPTION

The proposed Umsobomvu 400kV Turn-in System will consist of the following:

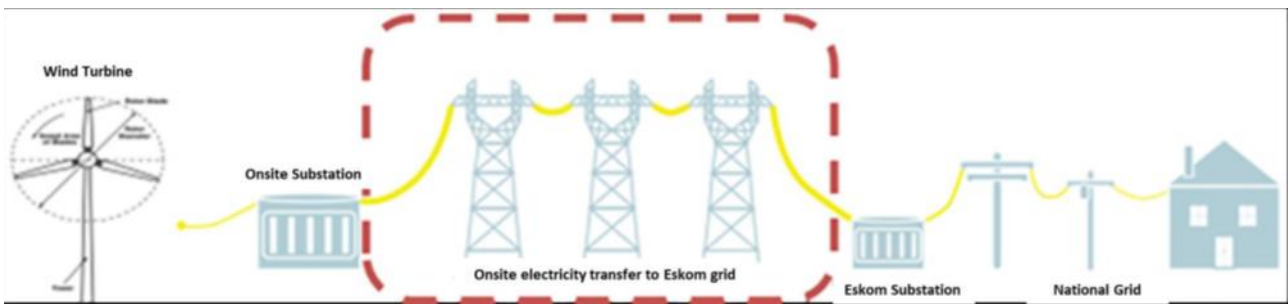
- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2).

### 2.2.1 WIND ENERGY LINKAGES

Wind turbines capture wind energy and convert it to electrical energy. Each turbine is fitted with its own transformer that steps up the voltage usually to 22 or 33kV. This electrical energy is then transported via underground cabling to an onsite substation where it will be boosted to 400 000 volts (400kV) for long distance transmission via the national electrical grid network.



The proposed OHL will be used to transmit electrical energy generated by the four authorised WEFs to the existing Eskom 400kV OHLs for distribution via the national electrical grid network. A generalised depiction of the infrastructure under this application is shown in below.



**Figure 2-3: Typical WEF electricity evacuation process. The red dotted square indicates the components relevant to this application**

### 2.2.2 400kV PYLONS

An overhead powerline consists of one or more conductors that are strung on in-line (intermediate) structures and bend (strain) structures. The structures proposed for this 400kV OHL are the Double circuit 277 series. These are tubular steel monopole structures (see figures below).



**Figure 2-4: Proposed steel monopole structures. A) Strain Structure. B) Intermediate Structure**

Each structure varies in height from approx. 12 m to 35m. the size of the footprint depends on the type of structure used, i.e. whether it is an intermediate or strain structure. This will typically range from 0.8m x 0.8m to 1.9m, with the larger footprint being associated with the strain structures. The average distance between two structures would be approx. 250m but can vary between 200m to 375m depending on the topography of the area. The intermediate structures are typically used along straight sections of the powerline, whereas strain structures are used when there is a bend in the powerline alignment.

### **2.2.3 SERVITUDE REQUIREMENTS AND CLEARANCES**

The servitude width required for a 400kV OHL is 55m (i.e. 27.5m on either side measured from the centre line of the powerline). The minimum vertical clearance to buildings, poles and structures not forming part of the power line must be 3.8m, while the minimum vertical clearance between the conductors and the ground is 6.7m.

The minimum distance of a 400kV OHL running parallel to proclaimed public roads is 95m from the centreline of the powerline servitude to the centreline of the road servitude. The minimum distance between trees and shrubs and any bare phase conductor of a 400kV OHL must be 4m, allowing for the possible sideways movement and swing of both the OHL and the tree or shrub.

Should the proposed powerline corridor receive environmental authorisation from the DEA, and following negotiations with the landowners, the final deviation of the centreline for the OHL and co-ordinates of each bend in the line will be determined. Optimal tower sizes and locations will be identified and verified using a comprehensive ground survey of the preferred route and these positions will be reflected in, and appropriate management actions incorporated into the Environmental Management Programme (EMPr).

A narrow path will be cleared down the centre of the OHL servitude for stringing purposes. All trees and shrubs that cause clearance issues or may interfere with the operation and/or reliability of the OHL, will be trimmed or completely cleared. With complete clearance only being undertaken as a last option.

In areas where distribution lines cross existing agricultural lands in use, the footprint of the structures will be minimised and full-scale clearing of the servitude avoided to allow continued use of arable land, unless otherwise negotiated with the affected farmer/s. Clearing of vegetation will take place, with the aid of a surveyor, along approved profiles and in accordance with the approved EMPr and the Eskom Vegetation Management Standard 240-52456757.

Once the centre line has been cleared, the surveyor pegs every tower position and marks the crossing point with existing fences for new gate installation. Once the tower positions have been marked, the vegetation clearing team will return to every tower position and clear vegetation (in accordance with the EMPr) for assembling and erection purposes.

### **2.2.4 FOUNDATIONS**

The type of terrain encountered, as well as the underlying geotechnical conditions determines the choice of foundation. The actual size and type of foundation to be installed will depend on the soil bearing capacity (actual sub-soil conditions). Strain structures require more expensive foundations for support than intermediate structures. The minimum working area required around a structure position is 20m x 20m.

Foundations will be mechanically excavated. Following this, a layer of concrete is cast at the bottom of the foundation. It will then be backfilled with soil/cement mixture and then compacted in layers for the setting of the foundations. In areas where access to the structure position prohibits the use of concrete mixing trucks, uphill pipping or gravity feeding of concrete up to distance of 200m will be implemented.

Prior to erecting the structures and infilling of the foundations, the excavated foundations will be covered/fenced-off in order to safeguard unsuspecting animals (including livestock) and people from injury. All foundations are backfilled, stabilised through compaction, and capped with concrete at ground level.

### **2.2.5 STRINGING OF CONDUCTORS**

Tension stringing gear is used to string the conductors between towers. The line is strung in sections (from bend to bend). Cable drums are placed at the beginning of the sections of the line during this stringing

process. In order to minimise any potential negative impacts on the surrounding area, these cable drums will be placed within the servitude.

### **2.2.6 CONSTRUCTION PROCESS OF THE OHLs**

OHL are constructed in the following simplified sequence:

- a) Determination of technically feasible OHL alternatives;
- b) EIA input route selection and obtaining of relevant environmental permits;
- c) Negotiation of final route with affected landowners;
- d) Survey of the route;
- e) Selection of best-suited structures and foundations;
- f) Final design of OHL and placement of towers;
- g) Issuing of tenders and award of contract to construction companies;
- h) Vegetation clearance and construction of access roads (if required);
- i) Pegging of structures;
- j) Construction of foundations;
- k) Assembly and erection of structures;
- l) Rehabilitation of disturbed areas and protection of erosion sensitive areas;
- m) Testing and commissioning; and
- n) Continued maintenance.

### **2.2.7 SITE ACCESS**

Access is required during both the construction and operational phases of the proposed project. The site proposed for development has largely been transformed through agricultural practises and already has gravel roads in place for these purposes. The existing Koruson SS, Umsobomvu WEF and Coleskop WEF access roads will be used for the purposes of the construction of this turn-in system. The OHL will include a jeep track for maintenance and service requirements. However, no additional roads in terms of access will be required. These roads have been authorised in existing EAs.

### **2.2.8 ON-GOING MAINTENANCE**

During the life span of the OHLs, ongoing maintenance will be required to be performed from time to time. This maintenance work will be conducted by Eskom maintenance staff and contractors employed by Eskom, and must comply with the EMPr and EA.

## **2.3 USE OF SERVICES AND RESOURCES**

The following section outlines the water, sewerage, stormwater and electrical requirements for the construction of the proposed Umsobomvu 400kV OHL turn-in system.

### **2.3.1 WATER**

Water will be required for potable use and in the construction of the foundations for the towers. The water will be sourced from approved water use points at locations closest to the area of construction.

### **2.3.2 SEWERAGE**

Chemical toilets will be made available for use by project staff during the construction phase, which will be serviced regularly by the supplier. No ablution facilities will be required during the operational phase of the proposed project.

### 2.3.3 STORMWATER

The construction of infrastructure will require the clearing of vegetation which will result in exposed soil surfaces. These exposed surfaces may potentially increase stormwater runoff. Stormwater will therefore be managed in line with Eskom Guidelines for Erosion Control and Vegetation Management, and the EMPr, which will be complied for the proposed works.

### 2.3.4 ELECTRICITY

Diesel generators will be utilised for the provision of electricity during the construction phase, where required.

## 2.4 RELEVANT LEGISLATION

Table 2-3 below consists of the legislation which is relevant to the proposed Umsobomvu 400kV Turn-in System.

**Table 2-3: Relevant Legislation, Policies & Guidelines.**

TITLE OF LEGISLATION, POLICY OR GUIDELINE	RELEVANCE TO THE PROJECT
Constitution Act (Act No. 108 of 1996)	The Developer is obligated to ensure that the development of the proposed Umsobomvu 400kV Turn-in System will not result in pollution and ecological degradation. In addition, the Developer is obligated to ensure that the proposed Umsobomvu 400kV Turn-in System is ecologically sustainable and that it demonstrates economic and social development.
National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment Regulations (2014, and subsequent 2017 amendments)	The construction of the proposed Umsobomvu 400kV Turn-in System triggers listed activities in terms of Listing Notice 1, Listing Notice 2 and Listing Notice 3 of the NEMA EIA Regulations (2014, and subsequent 2017 amendments). A Full Scoping and EIA Process must be undertaken and an Environmental Authorisation (EA) is required from the national Department of Forestry, Fisheries and the Environment (DFFE) prior to the commencement of construction.
National Environmental Management: Biodiversity Act (NEM:BA) (Act No. 10 of 2004) National Forestry Act (NFA) (Act No. 84 of 1998) Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974)	The proposed development of the proposed Umsobomvu 400kV Turn-in System will require the clearance of sections of vegetation, which will impact on the biodiversity of the area. The proposed Umsobomvu 400kV Turn-in System footprint could contain plant Species of Conservation Concern (SCC). The necessary permissions and/or permits must be obtained prior to the clearance of vegetation.
National Water Act (NWA) (Act No. 36 of 1998)	Should the proposed Umsobomvu 400kV Turn-in System trigger water use activities in terms of Section 21 of the NWA, authorisation will be required from the Department of Water and Sanitation (DWS) prior to the commencement of the construction phase. Regardless of whether Section 21 water uses are triggered, the DWS remains a stakeholder which will be notified of the proposed Umsobomvu 400kV Turn-in System .
Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002)	The Department of Mineral Resources (DMR) should be made aware of the proposed development and should any activities associated with the construction of the proposed Umsobomvu 400kV Turn-in System require the excavation/extraction of sand or hard rock for construction purposes, the necessary approvals and/or permits must be obtained from the DMR prior to the commencement of these activities.
National Heritage Resources Act (NHRA) (Act No. 25 of 1999)	The proposed Umsobomvu 400kV Turn-in System could impact sensitive heritage resources. The Eastern Cape Provincial Heritage Resources Authority (ECPHRA) and South African Heritage and Resource Agency (SAHRA) will be informed of the

TITLE OF LEGISLATION, POLICY OR GUIDELINE	RELEVANCE TO THE PROJECT
	proposed development and any relevant authorisation and/or permits must be obtained prior to the commencement of the construction phase.
National Environmental Management: Waste Act (NEM:WA) (Act No. 59 of 2008)	The Developer must ensure that all activities associated with the proposed Umsobomvu 400kV Turn-in System address waste-related matters in compliance with the requirements of the NEM:WA. The Developer should communicate with the affected municipalities to ensure that waste is disposed of at a suitably registered landfill site.
Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983)	The Department of Agriculture, Forestry and Fisheries (DAFF) must be informed of the proposed Umsobomvu 400kV Turn-in System. An invasive species monitoring, control and eradication plan for land/activities under their control should be developed as part of the environmental plans in accordance with CARA.
Electricity Regulation Act (Act No. 4 of 2006)	The proposed Umsobomvu 400kV Turn-in System must be in line with the Electricity Regulation Act.
Occupational Health and Safety Act (OHSA, Act No. 85 of 1993)	The Developer must be mindful of the principles and broad liability and implications associated with the OHSA and mitigate any potential impacts which are identified prior to the construction phase.
National Environmental Management: Air Quality Act (NEM:AQA) (Act No. 39 of 2004)	No major air quality issues are expected due to the proposed Umsobomvu 400kV Turn-in System; however, the Developer should be mindful of the impacts associated with dust generation as a result of vegetation clearance during the construction phase.
National Road Traffic Act (NRTA) (Act No. 93 of 1996)	The Developer must comply with all the requirements in terms of the NRTA during the construction and operational phases of the proposed Umsobomvu 400kV Turn-in System.
National Veld and Forest Fire Act (NVFFA) (Act No. 101 of 1998)	The Developer must ensure that appropriate firefighting equipment, protective clothing and trained personnel (for extinguishing fires) are present onsite during the construction of the Umsobomvu 400kV Turn-in System.
Local Municipalities (Umsobomvu LM – NC) (Inxuba Yethemba LM – EC)	The proposed Umsobomvu 400kV Turn-in System must comply with/be in line with all relevant municipal by-laws, the Spatial Development Framework (SDF) and the Integrated Development Plan (IDP). Representatives from the affected municipality must be informed of the proposed Umsobomvu 400kV Turn-in System.

Table 2-3 provides the relevant listed activities, in terms of the NEMA EIA Regulations (2014, and subsequent 2017 amendments), which are likely to be triggered by the activities associated with the proposed Umsobomvu 400kV Turn-in System.

The NEMA EIA Regulations (2014, and subsequent 2017 amendments) allow for a BA Process for activities with limited environmental impact (GN R. 983 and 985, 2014 or GN R. 327 and 324, 2017) and a more rigorous two (2) tiered approach to activities with potentially greater environmental impact (GN R. 984, 2014 or GN R. 325, 2017). This two (2) tiered approach includes both a Scoping and EIA Process. The proposed Umsobomvu 400kV Turn-in System triggers the **Scoping and EIA Process**, due to the Listing Notice 2 activities, which will require an EA from the national DEFF.

**Table 2-4: Listed Activities triggered by the proposed Umsobomvu 400kV Turn-in System.**

Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 1</b> (GN R. 983)	Describe the portion of the proposed project to which the applicable listed activity relates.
28 (ii)	<b>Residential, mixed, retail, commercial, industrial or 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:</b>	<b><i>The proposed Umsobomvu 400kV Turn-in System will be in excess of 1 ha (outside an urban area) and will occur on land which is used for agriculture (grazing).</i></b>



	<p>(i) <del>will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or</del></p> <p>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.</p>	
Activity No(s):	Provide the relevant <b>Scoping and EIA Activity(ies)</b> as set out in <b>Listing Notice 2</b> (GN R. 983)	Describe the portion of the proposed project to which the applicable listed activity relates.
9	<p><del>The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex, excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass is—</del></p> <p><del>a) Temporarily required to allow for maintenance of existing infrastructure;</del></p> <p><del>b) 2 kilometres or shorter in length; Within an existing transmission line servitude; and</del></p> <p><del>c) Will be removed within 18 months of the commencement of development.</del></p>	<i>The proposed Umsobomvu 400kV Turn-in System will include two overhead powerlines (up to 6km in each in length) and will be situated on rural, agricultural land.</i>
Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 3</b> (GN R. 985)	Describe the portion of the proposed project to which the applicable listed activity relates.
12 (a)(ii)	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>a. Eastern Cape</p> <p>i. Within critical biodiversity areas identified in bioregional plans;</p> <p>g. Northern Cape</p> <p>ii. Outside urban areas; (ee) critical biodiversity areas as identified in systematic biodiversity plans adopted by the authority or in bioregional plans.</p>	<i>The proposed Umsobomvu 400kV Turn-in System will require the clearing of pylon footprints prior to construction. This will require the clearance of more than 300 m<sup>2</sup> of indigenous vegetation.</i>

It is important to note that in addition to the requirements for an authorisation in terms of the NEMA, there may be additional legislative requirements which need to be considered prior to commencing with the activity, for example:

- National Heritage Resources Act (Act No 25 of 1999)
- Aviation Act (Act No 74 of 1962): 13th Amendment of the Civil Aviation Regulations (1997)
- NEM: Biodiversity Act (Act 10 of 2004)
- National Water Act (Act 36 of 1998).

### 3 PROJECT NEED AND DESIRABILITY

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Increasing pressure is being placed on countries internationally to reduce their reliance on fossil fuels, such as oil and coal, which contribute towards Greenhouse Gases (GHG) being emitted into the atmosphere and therefore contributing to climate change. Renewable energy resources, such as WEFs and Solar Photovoltaic (PV) facilities, are being implemented as alternative sources of energy at both a global and national scale.

South Africa has recognised the need to expand electricity generation capacity within the country. This is based on national policy and informed by ongoing planning undertaken by the Department of Energy (DoE) and the National Energy Regulator of South Africa (NERSA). The draft South African Integrated Resource Plan (IRP, 2018) was released for public comment in August 2018, setting out a new direction in energy sector planning. The plan includes a shift away from coal, increased adoption of renewables and gas, and an end to the expansion of nuclear power. The South African Government has not yet communicated a timeline for the final adoption of the plan. The previous two (2) proposed IRP updates (in 2013 and 2016) were not adopted by Cabinet.

The revised plan, if adopted, would mark a major shift in energy policy. The policy aims to decommission a total of 35 GW (of 42 GW currently operating) of coal generation capacity from Eskom by 2050, starting with 12 GW by 2030, 16 GW by 2040 and a further 7 GW by 2050. The draft IRP (2018) also proposes a significant increase in renewables-based generation from wind and solar as well as gas-based generation capacity by 2030 and beyond, with no further new nuclear capacity being procured. Implementing the IRP update (2018) could bring South Africa close to meeting the upper range of its 2030 Nationally Determined Contribution (NDC) target. The implementation of the IRP (2018) would constitute significant progress in the transformation of the South African energy sector. To be in line with the Paris Agreement goals for mitigation, South Africa would still need to adopt more ambitious actions by 2050, such as expanding renewable energy capacity beyond 2030, fully phasing out coal by mid-century, and substantially limiting unabated natural gas use.

Eskom currently has a net output of 47 201 MWp, and it produces 85% of South Africa's electricity, which is equivalent to 40% of Africa's electricity. Renewable energy contributes to 5% of South Africa's electricity. This is mainly due to the targets set in the IRP (2010-2030) which aimed to change the electricity landscape from high coal (91.7%) to medium coal (48%) using electricity produced by the Independent Power Producers (IPP), with the utility company, Eskom, as the single buyer of the electricity.

The Renewable Energy Independent Power Producers (REIPPP) programme procured over 6.3 GW by 2017 and of this, 3.8 GW was already feeding into the grid. A further 2.4 GW was procured in 2018, which included twenty-seven (27) projects signed by the minister. The REIPPP attracted \$14.4 billion investment by December 2017. The concept is based on the public-private partnership model to increase new generation capacity. It also encourages industrialisation as it requires that at least 40% of the technologies involved should have local content. This results in job creation for the local communities, where manufacturing takes place.

The proposed Umsobomvu 400kV Turn-in System is required to supplement the development of the authorised Koruson SS (DFFE Reference: 14/12/16/3/3/2/730/2), which in turn facilitates the development of the San Kraal, Phezukumoya, Coleskop and Umsobomvu WEFs. Therefore, the project need and desirability also relates to the need and desirability of renewable energy on a local, district, provincial, national and international level.

## 3.1 PROVINCIAL LEVEL

### 3.1.1 EASTERN CAPE VISION 2030 PROVINCIAL DEVELOPMENT PLAN, 2014

The proposed Umsobomvu 400kV Turn-in System will supplement the authorised Koruson SS and it is in line with the Eastern Cape Vision 2030 Provincial Development Plan, specifically with the sections extracted below.

The Eastern Cape Vision 2030 Provincial Development Plan states the following as a development focal point:

*“New investments in the electricity transmission and distribution networks are required to accommodate new generation capacity and strengthen grid capacity. This will improve network performance, network flexibility and the quality of supply for both economic and social activities.”* – Eastern Cape Vision 2030 Provincial Development Plan (2014)

In addition, Strategic Action 1.1.6 states that:

*“Strategic objective 1.1: Improved economic infrastructure that promotes new economic activity: Strategic action 1.1.6: Position the province as a key investment hub in the energy sector and ensure reliable energy supply to high-potential sectors*

*The province is positioning itself as an investment hub in the energy sector (wind farms, imported liquefied natural gas, shale-gas and nuclear energy). This will provide opportunities to develop the capital goods sector and heavy industries. This new investment could become a major catalyst for provincial economic development, particularly if the benefits and costs are well managed. Regional and local benefits accruing from new investment in the energy sector could include:*

- *Cheaper energy (fuel and electricity), leading to cheaper food and transport, and more competitive labour markets.*
- *Employment in the construction, operation and maintenance of new energy facilities.*
- *Employment in the supply of manufactured components for the new energy facilities.*
- *Downstream linkages (for example, in the petro-chemicals industry based on shale gas).*
- *New rental collection systems to capture a portion of the surplus from these new investments.*

*The province will need to position itself very carefully to ensure that these regional and local benefits are maximised, and costs (including externalities) are minimised.”* – Eastern Cape Vision 2030 Provincial Development Plan (2014)

## 3.2 NATIONAL LEVEL

### 3.2.1 NATIONAL DEVELOPMENT PLAN (NDP): VISION 2030, 2012

The National Development Plan (NDP) aims to promote sustainable and inclusive development in South Africa to reduce and ultimately eliminate poverty. Of the twelve (12) key focus areas of the NDP, the proposed Umsobomvu 400kV Turn-in OHL System will contribute to (1) an economy which will create more jobs, (2) improving infrastructure, and (3) transition to a low carbon economy.

The National Development Plan: Vision 2030 specifies the following relating to renewable energy. The proposed Umsobomvu 400kV Turn-in System, associated with the authorised Koruson SS and the four WEFs situated in its surroundings, will contribute to the increase in renewable energy development in South Africa, the improvement in infrastructure, the efficient use of natural resources and the creation of employment opportunities. It will also contribute to the country's ability to shift away from the reliance on coal-powered electricity and to move towards the decarbonisation of the economy.



*“Aside from coal and natural gas, the country has abundant potential sources of renewable energy in the form of solar and wind energy, but these are currently comparatively expensive, particularly when the costs of storage and transmission are taken into account. Competitively priced energy is needed to exploit mineral resources, the earnings from which will be required to fund the transformation of South African society, as well as the promotion of a more diverse and inclusive economy.” – National Development Plan: Vision 2030 (2012)*

*“South Africa has significant renewable energy resources, particularly solar and wind. Efficient use of these natural resources is fundamental to achieving the shift away from coal-powered electricity towards the decarbonisation of the economy. The allocations in terms of the IRP for the electricity sector are a good starting point. The long-term trend towards increasing the price competitiveness of renewable energy in relation to fossil fuels will continue as capacity expands, and the ability to leverage natural resources in terms of renewable energy will give South Africa an increasingly competitive advantage as carbon constraints become more important in the global economy.” – National Development Plan: Vision 2030 (2012)*

*“Procuring at least 20 000MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000MW of ageing coal-fired power stations and stepping up investments in energy-efficiency.” – National Development Plan: Vision 2030 (2012)*

*“The plan sets out steps that aim to ensure that, in 20 years, South Africa's energy system looks very different to the current situation: coal will contribute proportionately less to primary-energy needs, while gas and renewable energy resources – especially wind, solar and imported hydroelectricity – will play a much larger role.” – National Development Plan: Vision 2030 (2012)*

### **3.2.2 NATIONAL CLIMATE CHANGE RESPONSE WHITE PAPER, 2012**

Climate change has been identified as one (1) of the greatest threats to sustainable development in South Africa. The National Climate Change Response White Paper obligates the country to make a fair contribution to the global effort to achieve the stabilisation of GHG concentrations in the atmosphere. The proposed Umsobomvu 400kV Turn-in System, required to evacuate the power generated by the four authorised WEFs, complies with the National Climate Change Response White Paper as it will provide an alternative source of electricity, to fossil fuel-derived electricity, which will contribute to climate change mitigation.

*“Policy decisions on new infrastructure investments must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future. However, in the short-term, due to the stock and stage in the economic lifecycle of existing infrastructure and plant, the most promising mitigation options are primarily energy efficiency and demand side management, coupled with increasing investment in a renewable energy programme in the electricity sector.” – National Climate Change Response White Paper (2012)*

### **3.2.3 GHG NATIONAL INVENTORY REPORT, SOUTH AFRICA, 2000-2015**

The proposed Umsobomvu 400kV Turn-in System, associated with the four authorised WEFs, will contribute to a reduction in the dependency on coal-based power.

*“Electricity generation is the largest key GHG emission source in South Africa, mainly because it mainly uses sub-bituminous coal which is abundantly available in the country. Data on fuel consumption for public electricity generation was obtained directly from the national power producer for the period 2000 to 2015. Eskom supplies more than 90% of South Africa's electricity needs (DoE, 2018). It generates, transmits and distributes electricity to various sectors, such as*

*the industrial, commercial, agricultural and residential sectors.” – GHG National Inventory Report, South Africa (2000 – 2015)*

### **3.3 INTERNATIONAL LEVEL**

#### **3.3.1 UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC), 1992 AS AMENDED**

The UNFCCC is a framework convention which was adopted at the 1992 Rio Earth Summit. South Africa signed the UNFCCC in 1993 and indorsed it in August 1997. The objective of the UNFCCC is to:

*“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” – UNFCCC (1992 and subsequent amendments)*

*“Commitment 1 – All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors.” – UNFCCC (1992 and subsequent amendments)*

*“Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial...” – UNFCCC (1992 and subsequent amendments)*

The proposed Umsobomvu 400kV Turn-in System, required for the evacuation of power of the four authorised WEFs, is in line with the UNFCCC as the developments will contribute to the reduction in the production of GHG by providing an alternative energy source to fossil fuel-derived electricity in South Africa.

#### **3.3.2 THE KYOTO PROTOCOL, 2002**

The Kyoto Protocol, which was adopted in Kyoto (Japan) in 1997 and enforced in 2005, is an international agreement which is linked to the UNFCCC. The Protocol contains internationally binding emission reduction targets, as an instrument to reduce climate change. *“Under the Protocol, countries' actual emissions have to be monitored and precise records have to be kept of the trades carried out.”* The proposed Umsobomvu 400kV Turn-in System, associated with the four authorised WEFs, is in line with the Kyoto Protocol as the developments will provide an alternative energy source to fossil fuels.

Increasing pressure is being placed on countries internationally to reduce their reliance on fossil fuels, such as oil and coal, which contribute towards Greenhouse Gases (GHG) being emitted into the atmosphere and thus climate change. Renewable energy resources such as wind energy facilities and solar PV farms are being implemented as alternative sources of energy at a global and national scale.

South Africa has recognised the need to expand electricity generation capacity within the country. This is based on national policy and informed by ongoing planning undertaken by the Department of Energy (DoE) and the National Energy Regulator of South Africa (NERSA).

The draft of the South African Integrated Resource Plan (IRP 2018) was released for public comment in August 2018, setting out a new direction in energy sector planning. The plan included a shift away from coal, increased adoption of renewables and gas, and an end to the expansion of nuclear power. The revised plan marks a major shift in energy policy. The draft policy aimed to decommission a total of 35 GW (of 42 GW currently operating) of coal generation capacity from Eskom by 2050, starting with 12 GW by 2030, 16 GW by 2040 and a further 7 GW by 2050.

The IRP 2019 was Gazetted in October 2019 and makes provision for the procurement of 1.6 GW of wind energy per annum from 2020 to 2030.

The implementation of the IRP constitutes significant progress in the transformation of the South African energy sector. To be in line with the Paris Agreement goals for mitigation, South Africa would still need to adopt more ambitious actions by 2050 such as expanding renewable energy capacity beyond 2030, fully phasing out coal by mid-century, and substantially limiting unabated natural gas use.

## 4 RELEVANT LEGISLATION

The development of the proposed Umsobomvu 400kV Turn9in OHL System will be subject to the requirements of various items of South African legislation. These are described below.

### 4.1 THE CONSTITUTION (ACT NO. 108 OF 1996)

This is the supreme law of the land. As a result, all laws, including those pertaining to the proposed development, must conform to the Constitution. The Bill of Rights - Chapter 2 of the Constitution, includes an environmental right (Section 24) according to which, everyone has the right:

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

#### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer has an obligation to ensure that the proposed activity will not result in pollution and ecological degradation.
- The developer has an obligation to ensure that the proposed activity is ecologically sustainable, while demonstrating economic and social development.

### 4.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998)

The National Environmental Management Act (No.107 of 1998) (NEMA) provides for basis for environmental governance in South Africa by establishing principles and institutions for decision-making on matters affecting the environment.

A key aspect of NEMA is that it provides a set of environmental management principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. Section 2 of NEMA contains principles (see Table 3-1) relevant to the proposed OHL project, and likely to be utilised in the process of decision making by DFFE.

**Table 3-1: NEMA Environmental Management Principals**

(2)	Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
(3)	Development must be socially, environmentally and economically sustainable.
(4)(a)	Sustainable development requires the consideration of all relevant factors including the following: <ol style="list-style-type: none"><li>i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;</li><li>ii. That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;</li><li>iii. That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.</li></ol>
(4)(e)	Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

<b>(4)(i)</b>	The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
<b>(4)(j)</b>	The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
<b>(4)(p)</b>	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 must be paid for by those responsible for harming the environment.
<b>(4)(r)</b>	Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

As these principles are utilised as a guideline by the competent authority in ensuring the protection of the environment, the proposed development should, where possible, be in accordance with these principles. Where this is not possible, deviation from these principles would have to be very strongly motivated.

NEMA introduces the duty of care concept, which is based on the policy of strict liability. This duty of care extends to the prevention, control and rehabilitation of significant pollution and environmental degradation. It also dictates a duty of care to address emergency incidents of pollution. A failure to perform this duty of care may lead to criminal prosecution and may lead to the prosecution of managers or directors of companies for the conduct of the legal persons.

Employees who refuse to perform environmentally hazardous work, or whistle blowers, are protected in terms of NEMA.

In addition NEMA introduces a new framework for environmental impact assessments, the EIA Regulations (2014, as amended) discussed previously.

**RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer has an obligation to ensure that the proposed activity will not result in pollution and ecological degradation.
- The developer has an obligation to ensure that the proposed activity is ecologically sustainable, while demonstrating economic and social development.

## 4.3 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT NO. 57 OF 2003)

The National Environmental Management: Protected Areas Act (No. 57 of 2003) (NEMPAA) mainly provides for the following:

- Declaration of nature reserves and determination of the type of reserve declared.
- Cooperative governance in the declaration and management of nature reserves.
- A system of protected areas in order to manage and conserve biodiversity.
- Utilization and participation of local communities in the management of protected areas.

**RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The Act is not relevant as the OHL is not located close to any areas proclaimed in terms of the Act.

## 4.4 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT NO. 10 OF 2004)

The National Environment Management: Biodiversity Act (No. 10 of 2004) (NEMBA) provides for the management and conservation of South Africa's biodiversity and the protection of species and ecosystems that warrant national protection.

The objectives of this Act are to:

- Provide, within the framework of the National Environmental Management Act.
- Manage and conserve of biological diversity within the Republic.
- Promote the use of indigenous biological resources in a sustainable manner.

The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 107 of 1998. In terms of the Biodiversity Act, the developer has a responsibility for:

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

The Act's permit system is further regulated in the Act's Threatened or Protected Species Regulations, which were promulgated in February 2007.

**RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer must not cause a threat to any endangered ecosystems and must protect and promote biodiversity;
- The OHL developer must assess the impacts of the proposed development on endangered ecosystems;
- The developer may not remove or damage any protected species without a permit; and
- The developer must ensure that the site is cleared of alien vegetation using appropriate means.

## **4.5 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE MANAGEMENT ACT (ACT NO. 59 OF 2008)**

The National Environmental Management: Waste Management Act (No. 59 of 2008) (NEMWMA) gives legal effect to the Government's policies and principles relating to waste management in South Africa, as reflected in the National Waste Management Strategy (NWMS).

The objects of the Act are (amongst others) to:

Protect health, well-being and the environment by providing reasonable measures for:

- Minimising the consumption of natural resources.
- Avoiding and minimising the generation of waste.
- Reducing, re-using, recycling and recovering waste.
- Treating and safely disposing of waste as a last resort.
- Preventing pollution and ecological degradation.
- Securing ecologically sustainable development while promoting justifiable economic and social development.
- Promoting and ensuring the effective delivery of waste services.
- Remediating land where contamination presents, or may present, a significant risk of harm or the environment; and
- Achieving integrated waste management reporting and planning.

**RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer must ensure that all activities associated with the project address waste related matters in compliance with the requirements of the Act.

## 4.6 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT (ACT No. 39 OF 2004)

The National Environmental Management: Air Quality Act (No. 39 of 2004)(NEMAQA) is the principal legislation regulating air quality in South Africa. The objects of the Act are to:

- Give effect to Section 24(b) of the Constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of people, and
- Protect the environment by providing reasonable measures for:
  - Protection and enhancement of the quality of air in the Republic.
  - Prevention of air pollution and ecological degradation.
- Securing ecologically sustainable development while promoting justifiable economic and social development.

The Air Quality Act empowers the Minister to establish a national framework for achieving the objects of this Act. The said national framework will bind all organs of state. The said national framework will inter alia have to establish national standards for municipalities to monitor ambient air quality and point, non-point and mobile emissions.

### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- Although no major air quality issues are expected, the developer needs to be mindful of the Act as it also relates to potential dust generation during construction, etc.

## 4.7 NATIONAL HERITAGE RESOURCES ACT (ACT No. 25 OF 1999)

The protection of archaeological and paleontological resources is the responsibility of a provincial heritage resources authority, and all archaeological objects, paleontological material and meteorites are the property of the State. “Any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority”.

### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

SAHRA needs to be informed of the project and EIA process.

- A heritage impact assessment (HIA) must be undertaken.
- No person may alter or demolish any structure or part of a structure, which is older than 60 years or disturb any archaeological or paleontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter or deface archaeological or historically significant sites.

## 4.8 ELECTRICITY REGULATION ACT (ACT No. 4 OF 2006)

The Electricity Regulation Act (Act No. 4 of 2006) came into effect on 1 August 2006 and the objectives of this Act are to:

- Facilitate universal access to electricity.
- Promote the use of diverse energy sources and energy efficiencies.
- Promote competitiveness and customer and end user choice.

### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**



- The proposed Over-head transmission line is in line with the call of the Electricity Regulation Act No. 4 of 2006 as it has the potential to improve energy security of supply through diversification.

## 4.9 OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)

The objective of this Act is to provide for the health and safety of persons at work. In addition, the Act requires that, “as far as reasonably practicable, employers must ensure that their activities do not expose non-employees to health hazards”. The importance of the Act lies in its numerous regulations, many of which will be relevant to the proposed Umsobomvu OHLs. These cover, among other issues, noise and lighting.

### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer must be mindful of the principles and broad liability and implications contained in the OHSA and mitigate any potential impacts.

## 4.10 NATIONAL WATER ACT (ACT NO. 36 OF 1998)

The National Water Act (No. 36 of 1998) (NWA) provides for fundamental reform of the law relating to water resources in South Africa.

The purpose of the Act amongst other things is to:

- Ensure that the national water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors:
  - Promoting equitable access to water.
  - Promoting the efficient, sustainable and beneficial use of water in the public interest.
  - Facilitating social and economic development.
  - Protecting aquatic and associated ecosystems and their biological diversity.
  - Reducing and preventing pollution and degradation of water resources.

The NWA is concerned with the overall management, equitable allocation and conservation of water resources in South Africa. To this end, it requires registration of water users and licenses to be obtained for water use except for certain limited instances set out in the Act. These instances include domestic use, certain recreational use, where the use occurs in terms of an existing lawful use or where the Department of Water and Sanitation (DWS) has issued a general authorisation that obviates the need for a permit.

Water use for which a permit is required

For the purposes of this Act, water uses for which a permit is required (amongst other), are defined in Section 21 as follows:

- Taking water from a water resource.
- Storing water.
- Impeding or diverting the flow of water in a watercourse.
- Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.
- Disposing of waste in a manner which may detrimentally impact on a water resource.
- Altering the bed, banks, course or characteristics of a watercourse.

### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- There may be instances where the developer may need to obtain approval in terms of the Water Act, depending on the final layout of the proposed system.



## 4.11 CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT NO. 43 OF 1983)

The Conservation of Agricultural Resources Act (No. 43 of 1983) (CARA) is the main statute that deals with agricultural resource conservation.

The objects of the Act are to provide for the conservation of the natural agricultural resources of South Africa by the maintenance of the production potential of land. In order to maintain production potential of land, CARA provides for the following mechanisms; namely:

- Combating and prevention of erosion and weakening and destruction of water sources.
- Protection of vegetation.
- Combating of weeds and invader plants.

### **CARA Regulations**

In order to give meaning to mechanisms aimed maintaining production potential of land provided for in CARA, Minister of Agriculture published regulations under CARA (CARA Regulations) which prescribes control measures which all land users have to comply, in respect of a number of matters, including the:

- Cultivation of virgin soil.
- Protection of cultivated land.
- Utilisation and protection of the veld.
- Control of weed and invader plants.
- Prevention and control of veld fires and the restoration and reclamation of eroded land.

#### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- Comment from DFFE must be obtained.
- Methods of monitoring, control and eradication of alien invasive plant species within the powerline servitude should be developed as part of the Environmental Management Program (EMPr).

## 4.12 SUBDIVISION OF AGRICULTURAL LAND ACT (ACT NO. 70 OF 1970)

The Subdivision of Agricultural Land Act (No. 70 of 1970) controls the subdivision of all agricultural land in South Africa and prohibits certain actions relating to agricultural land. In terms of the Act, the owner of agricultural land is required to obtain consent from the Minister of Agriculture in order to subdivide agricultural land.

The purpose of the Act is to prevent uneconomic farming units from being created and degradation of prime agricultural land. The Act also regulates leasing and selling of agricultural land as well as registration of servitudes.

#### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- Approval will be required from the Department of Forestry, Fishery and Agriculture (DFFE) for any activities on the land zoned for agriculture and any proposed rezoning or sub-divisions of agricultural land.

## 4.13 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT NO. 28 OF 2002)

Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA) makes provision for equitable access to and sustainable development of the South Africa's mineral and petroleum resources and to provide for matters connected therewith.

The objects of this Act are (amongst others) to:

- Give effect to the principle of the State's custodianship of the nation's mineral and petroleum resources.
- Promote equitable access to the nation's mineral and petroleum resources to all the people of South Africa.
- Give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

#### *Application for a mining right*

As per Section 27 (1) of the Act, the Department of Mineral Resources and Energy (DMRE) must grant permission for all mining operations. Both the removal of sand and/or stone from a borrow pit or quarry requires an application for a mining right.

There are two categories of permission relevant to borrow pits and hard rock quarries, namely; "Mining Permits" and secondly "Mining Rights or Licence." As is reflected in the table below, these categories are linked to the size of the proposed operation and the proposed operational period.

Category	Size	Period of operation	DMR Requirement
Mining Permit	< 1.5ha	< 2 years	Environmental Management Programme (EMPr)
Mining Right (Licence)	Not specified	Not specified	Scoping and EIA Environmental Management Programme (EMPr)

In addition, Section 53 of the Act requires that Ministerial approval is attained for "any person who intends to use the surface of any land in any way which may be contrary to any object of this Act or is likely to impede any such object".

#### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

- The developer must apply to the Minister of Mineral Resources for approval to use the land for the purposes of the proposed 400kV transmission line. This will be submitted once the EIA assessment has been completed.

## **4.14 NATIONAL ROAD TRAFFIC ACT (ACT NO. 93 OF 1996)**

The National Road Traffic Act (No. 93 of 1996) (NRTA) 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.

#### **RELEVANCE TO THE PROPOSED UMSOBOMVU 400KV TURN-IN OHL SYSTEM**

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

## **4.15 NATIONAL VELD AND FOREST FIRE ACT (ACT NO. 101 OF 1998)**

The aim of the Act is to "prevent and combat veld, forest and mountain fires" in South Africa. Of particular relevant to the proposed Umsobomvu OHL development the following requirements of the Act need to be considered:

Relevant Section of the Act	Relevant to the proposed Umsobomvu 400kV OHL:
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Section 3: Fire Protection Associations.	The proposed Umsobomvu OHL must register as a member of the fire protection association in the area.
Chapter 4 Section 12-14: Veld fire prevention: duty to prepare and maintain firebreaks	The proposed Umsobomvu OHL will be required to take all practicable measures to ensure that fire breaks are prepared and maintained according to the specifications contained in Section 12 - 14
Section 17: Firefighting: readiness	The proposed Umsobomvu OHL must have the appropriate equipment, protective clothing and trained personnel for extinguishing fires.

## 4.16 OTHER RELEVANT NATIONAL LEGISLATION

Other national legislation that may be relevant to the proposed Umsobomvu OHL includes:-

- The Environment Conservation Act (No. 73 of 1989) (ECA) Noise Control Regulations, which specifically provide for regulations to be made with regard to the control of noise, vibration and shock, including prevention, acceptable levels, powers of local authorities and related matters.
- The Telecommunication Act (1966) which has certain requirements with regard to potential impacts on signal reception;
- Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974), which lists species of special concern which require permits for removal. Schedules 1 to 4 list protected and endangered plant and animal species.
- Spatial Planning and Land Use Management Act (SPLUMA) (Act 16 of 2013 – came into force on 1 July 2015) aims to provide inclusive, developmental, equitable and efficient spatial planning at the different spheres of the government. This act repeals national laws on the Removal of Restrictions Act, Physical Planning Act, Less Formal Township Planning Act and Development Facilitation Act.

## 4.17 MUNICIPAL POLICY

### ***Municipal by-laws***

Certain activities related to the proposed development may, in addition to National legislation, be subject to control by municipal by-laws. These will need to be confirmed with the Local Municipalities prior to construction.

## 5 DESCRIPTION OF THE ENVIRONMENT

### 5.1 BIO-PHYSICAL ENVIRONMENT

The proposed 400kV Turn-in falls within both the Northern Cape and the Eastern Cape Provinces. In the Northern Cape, it falls within the Umsobomvu Local Municipality in the Pixley ka Seme District Municipality.

The specific region, concerned with the Umsobomvu OHL, is part of the Dry Highveld Grassland Bioregion and the Nama-Karoo Biome. It consists of Besemkaree koppies shrubland in the high lying areas and Eastern Upper Karoo in the lower lying areas. Portions of the proposed area are used for ecotourism and agriculture. The ecotourism entails hiking trails and the primary agricultural practices include subsistence and commercially farmed livestock.

#### 5.1.1 CURRENT LAND USE ACTIVITIES

Land uses in the landscape adjacent to the proposed Umsobomvu OHL include:

- Horse breeding and horse-riding shows (Saddle Horse and Boerperd)
- Commercial farming and subsistence farming
- Cattle, sheep and goat grazing and breeding
- Livestock feeding crops (such as Lucerne)
- Fruit trees

#### 5.1.2 CLIMATE

The Middelburg/Noupoort area typically receives between 234 and 261mm of rain per year, with most rainfall occurring during autumn. The area receives the lowest rainfall (2mm) in July and the highest (56mm) in March. The average midday temperatures range from 13.6°C in June to 30.2°C in January. The region is the coldest during July when the mercury drops to 0.2°C on average during the night.

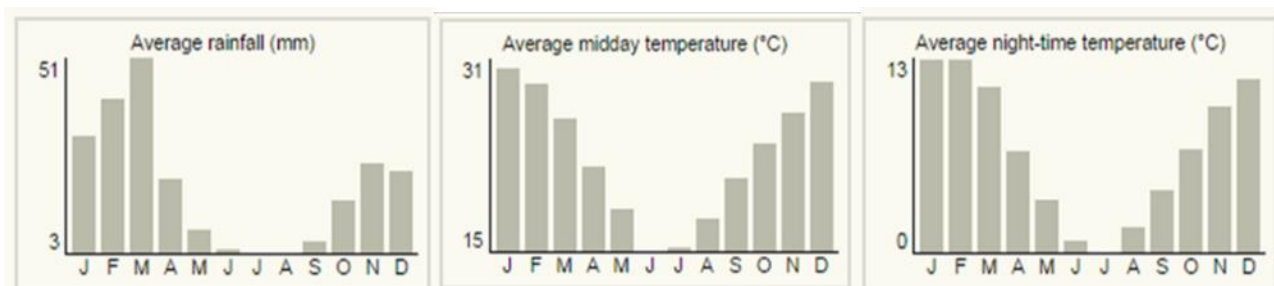


Figure 5-1: The average rainfall, midday and night-time temperature ([www.saexplorer.co.za](http://www.saexplorer.co.za))

#### 5.1.3 TOPOGRAPHY

The Umsobomvu 400kV Turn-in OHL site has an average altitude of 1 750m. The surrounding areas consist of low lying, flat grasslands with undulating hills. The particular mountain scape on which the site is located is one the highest and most impressive in the region.

#### 5.1.4 GEOLOGY

The dominant geological feature within the affected farm portions of the proposed Umsobomvu OHL consists of sedimentary deposits of the Tarkastad Subgroup or rocks which makes up part of the much larger Karoo Supergroup of geological formations (Figure 5-2). The Tarkastad Subgroup is further divided into the Katberg Formation which represents all rocks found within the OHL site.

The Katberg Formation is a sandstone-rich layer consisting of light brownish grey to greenish grey, fine-to medium-grained sandstones containing scattered pebbles of up to 15 cm in diameter. Oval to spherical calcarious concretions, 3-10 cm in diameter, as well as intraformational mud-pellet conglomerates are also common. The alternating mudstone units are predominantly red in colour with reptile, amphibian and fish fossils occurring relatively common.

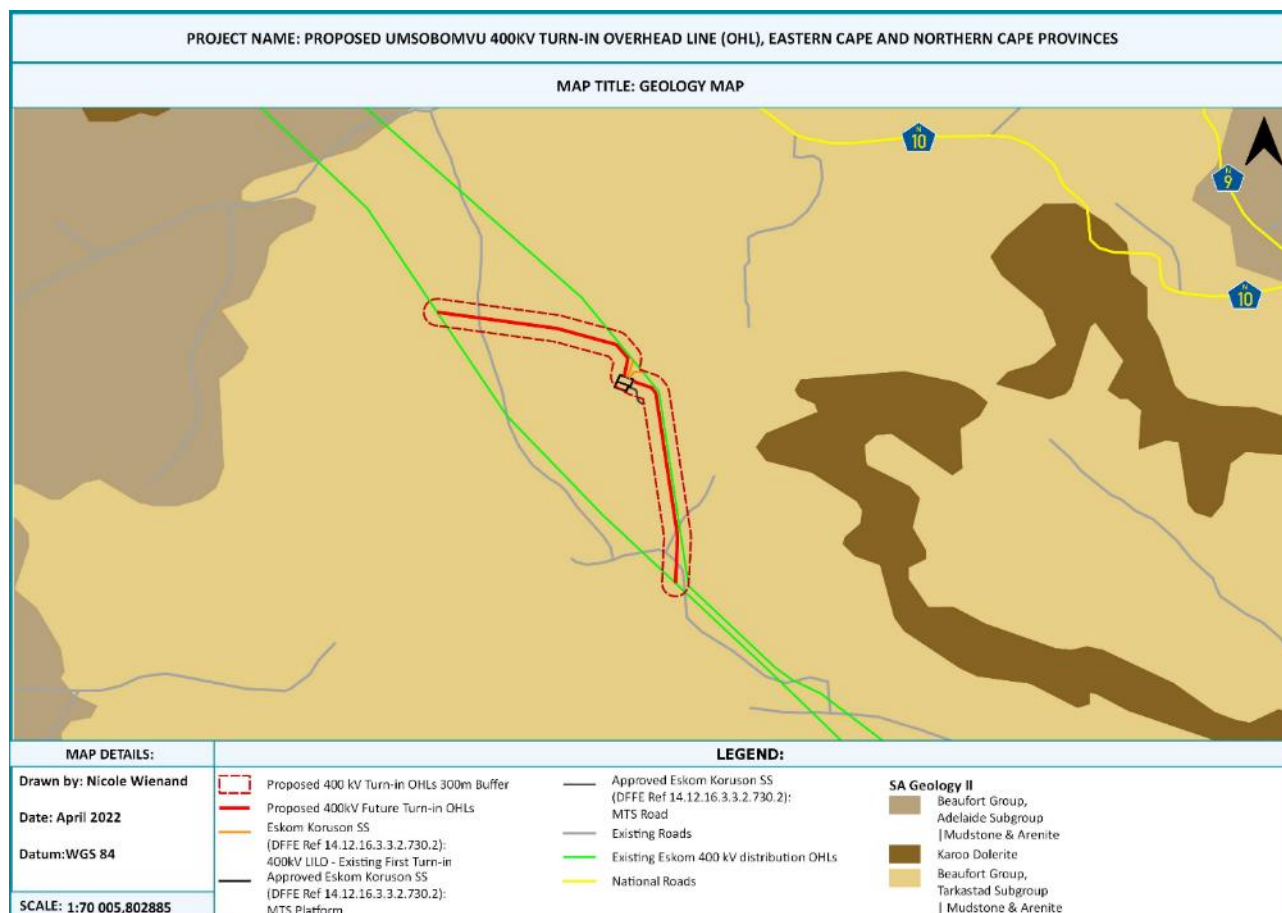


Figure 5-2: The geology of the proposed Hydra-D LIL0

### 5.1.5 SOILS AND AGRICULTURAL POTENTIAL

The desktop information on soils and agricultural potential has been obtained from the AGIS online database, produced by the Institute of Soil, Climate and Water.

Leptosols: Leptosols (Figure 5-3 and Table 5-1). Leptosols are located on the lower lying areas at the foot of the plateau and is characterised by minimal development and are generally shallow on weathering rock. This soil pattern is not considered to be very arable in terms of agricultural potential, however significant areas are currently being cultivated (Figure 5-5).

Table 5-1: Soil Group Descriptions

Code	Group	Description	Agricultural Potential
LP2: Leptosols 2 (depicted in pale grey in Figure 5-3)	Soils with limited pedological development	Soils with minimal development, usually shallow on hard or weathering rock, with or without intermittent diverse soils. Lime generally present in part or most of the landscape.	LOW



Code	Group	Description	Agricultural Potential
R: Rock (depicted in dark grey in Figure 5-3)	Rock with limited soils	Areas dominated by rocky outcrops with limited soils.	LOW

Agricultural potential refers to the soil characteristics only and does not take prevailing local climatic conditions/restrictions into account. Soils are classified as high, moderate or low potential and are characterised as follows:

- “High” potential soils refer to those soils generally more than 900-1200 mm deep, with medium texture, lacking significant structure and without any drainage restrictions.
- “Moderate” potential soils refer to those soils either between approximately 500 mm and 900 mm deep, or with significant restrictions such as soil structure, lack of fertility caused by sandy texture or the like.
- “Low” potential soils are generally shallow to very shallow, often with rock, or have severely restricting soil structure or occur in wetland areas.

The Umsobomvu 400kV Turn-in System doesn’t occur within the nationally demarcated arable agricultural land according to Section 70 of the Agricultural Act.

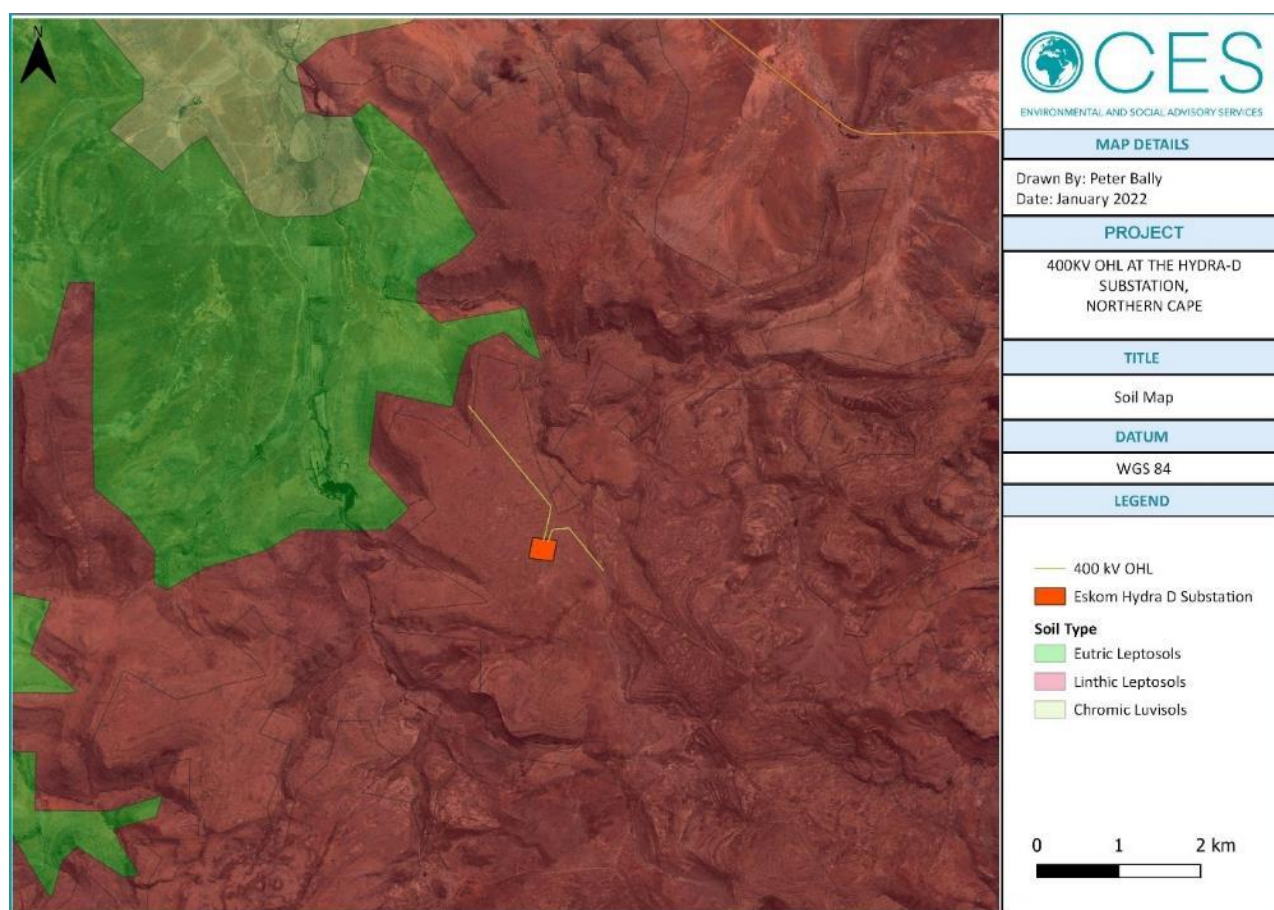


Figure 5-3: Generalised soil patterns of the Umsobomvu 400kV Turn-in System project area

### 5.1.6 CRITICAL BIODIVERSITY AREA

#### CBA: Eastern Cape

According to the Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019), the sections of the affected properties for the proposed Umsobomvu 400kV OHL, fall within Terrestrial Critical Biodiversity Area (CBA) 1 and 2, as indicated in Figure 5-4 on the following page. In addition, the affected properties include Ecological Support Area (ESA) 1 in terms of the ECBCP Aquatic CBAs (2019), however, none of the proposed



infrastructure is situated within an ESA nor CBA in terms of the ECBCP Aquatic CBAs (2019), as indicated in Figure 5-5.

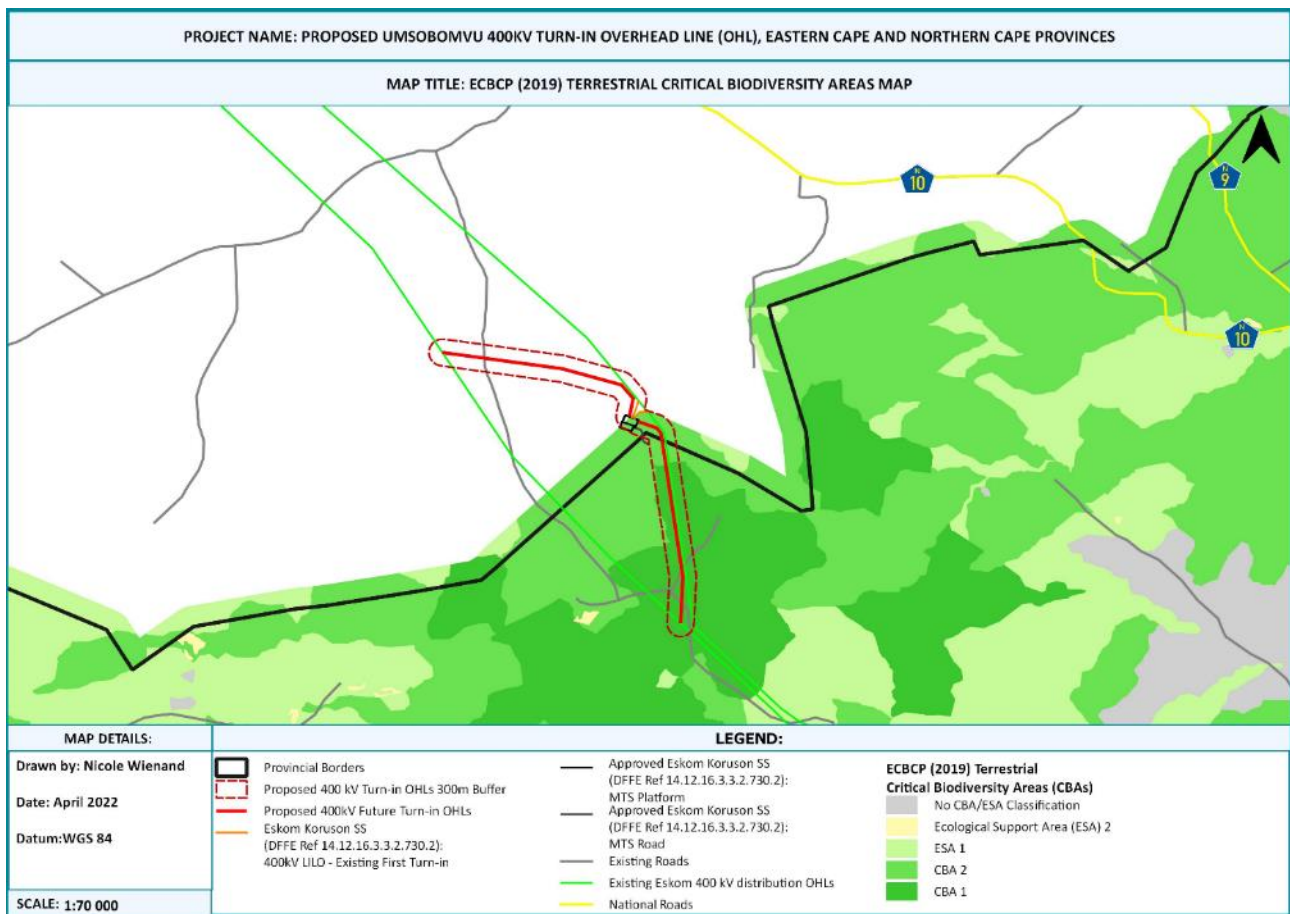


Figure 5-4: Eastern Cape CBAs - Terrestrial

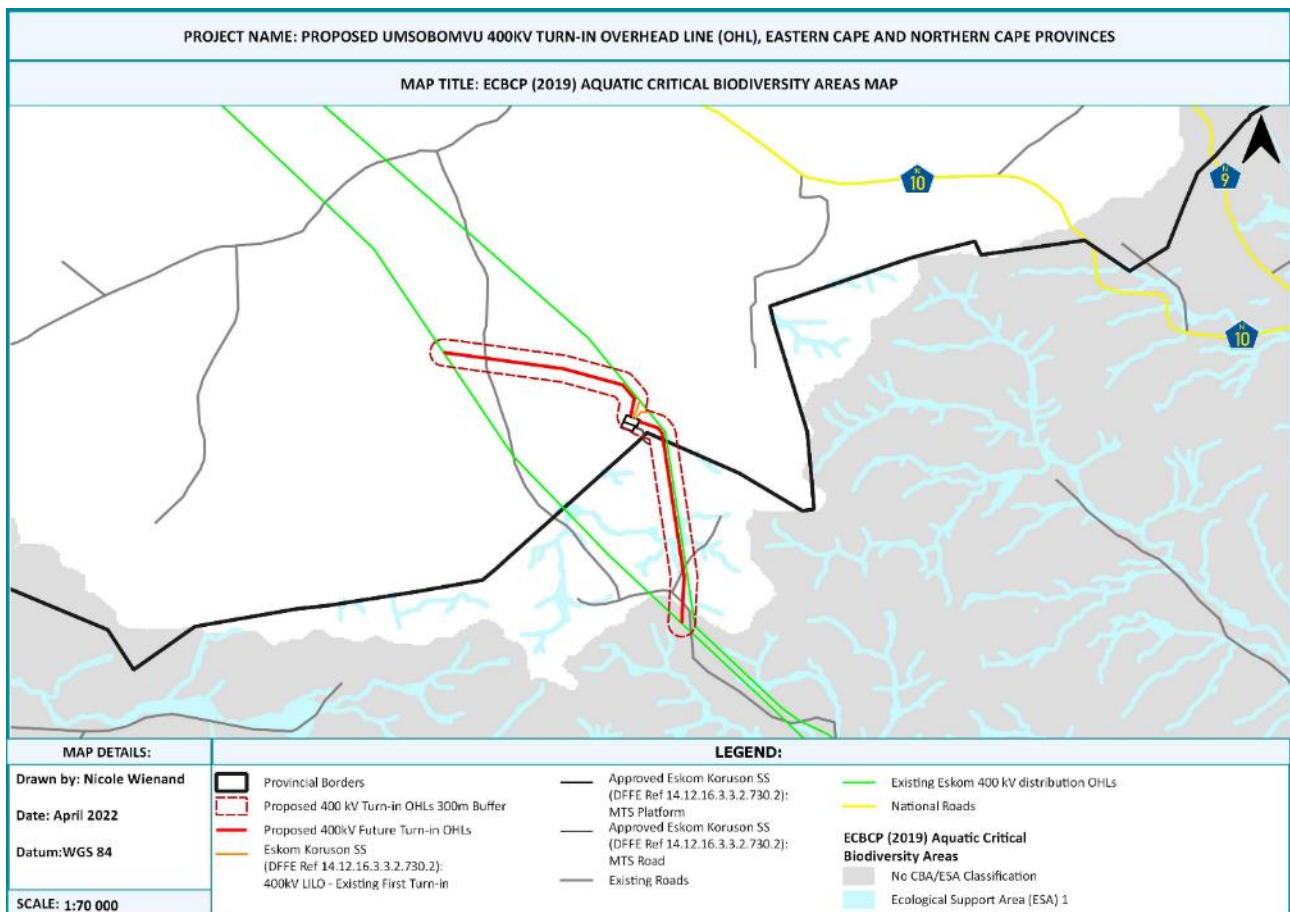


Figure 5-5: Eastern Cape CBAs - Aquatic

#### CBA: Northern Cape

According to the Northern Cape Biodiversity Plan (2016), the proposed Umsobomvu Development site and associated infrastructure footprints occur within areas classified as CBA 2, as indicated in Figure 5-6 below. No CBA 1 areas are affected by the proposed development.

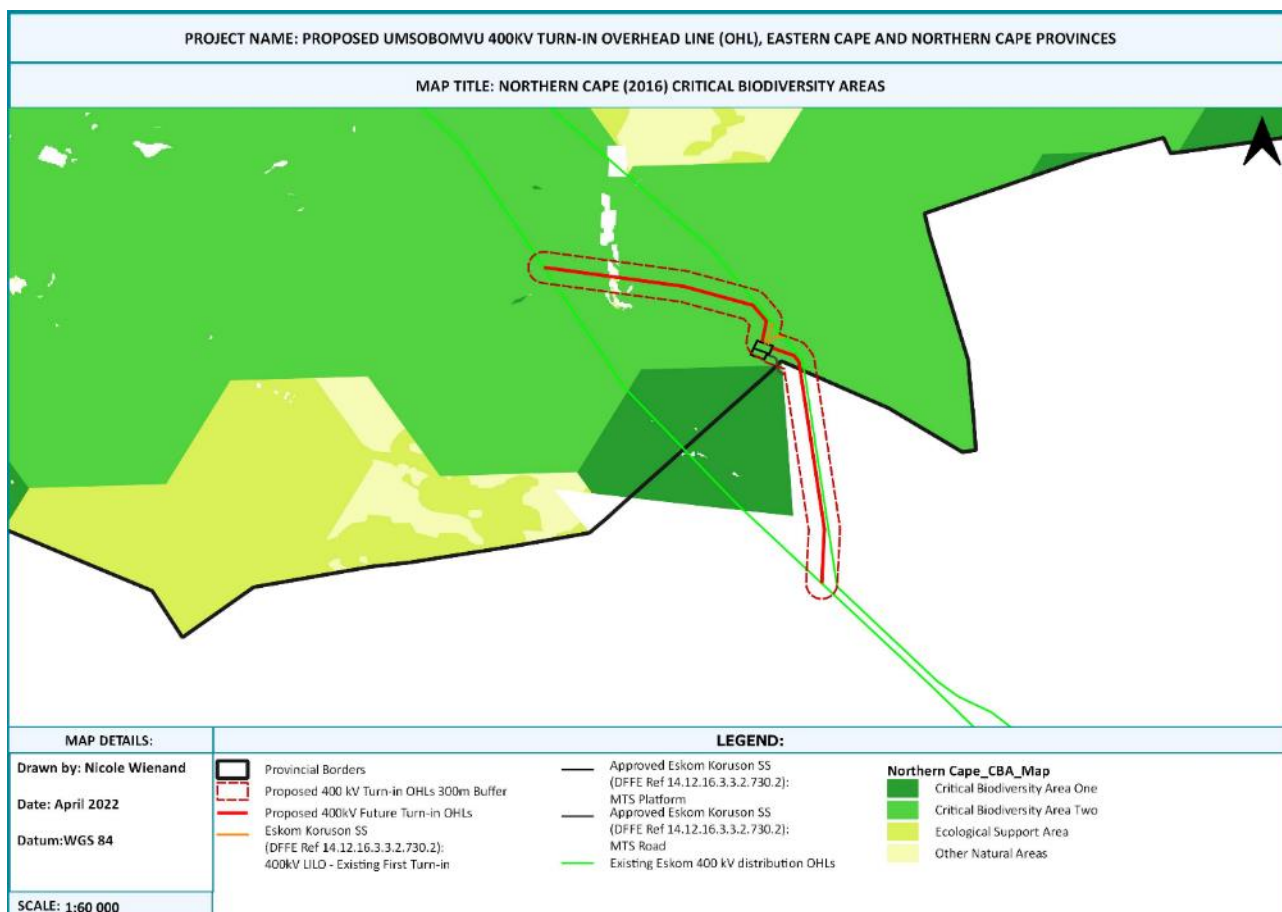


Figure 5-6: Northern Cape CBAs

## 5.1.7 VEGETATION AND FLORISTICS

### Regional Context of the Vegetation

The project area falls within two biomes; the Grassland Biome and the Nama-Karoo Biome. Grasslands are the second largest biome in South Africa and are widespread, ranging from sea level up to over 2000 meters above sea level. The Nama-Karoo biome is the third largest biome in South Africa and is situated in the western half of the country, stretching over the central plateau.

### SANBI Vegetation Map

Mucina and Rutherford (2006) developed the National Vegetation map as part of a South African National Biodiversity Institute (SANBI) funded project: "It was compiled in order to provide floristically based vegetation units of South Africa, Lesotho and Swaziland at a greater level of detail than had been available before." The map was developed using a wealth of data from several contributors and has allowed for the best national vegetation map to date, the last being that of Acocks developed over 50 years ago. The SANBI Vegetation map informs finer scale bioregional plans such as in fall STEP. This SANBI Vegmap project has two main aims:

- "to determine the variation in and units of southern African vegetation based on the analysis and synthesis of data from vegetation studies throughout the region, and
- to compile a vegetation map. The aim of the map was to accurately reflect the distribution and variation on the vegetation and indicate the relationship of the vegetation with the environment. For this reason the collective expertise of vegetation scientists from universities and state departments were harnessed to make this project as comprehensive as possible."

The map and accompanying book describes each vegetation type in detail, along with the most important species including endemic species and those that are biogeographically important. This is the most

comprehensive data for vegetation types in South Africa. The following vegetation types are found within the project area (Figure 5-7):

#### *Besemkaree Koppies Shrubland*

Besemkaree Koppies Shrubland occurs in the Northern Cape, Free State and Eastern Cape Provinces along the slopes of koppies, butts and tafelbergs. This vegetation type comprises of two layers; the lower layer is dominated by dwarf small-leaved shrubs, and in years with high rainfall, grasses. The upper layer is dominated by tall shrubs such as *Rhus erosa*, *Rhus burchelli*, *Rhus ciliata*, *Euclea crispa*, *Diospyros austro-africana* and *Olea europaea* subsp. *africana*. This vegetation type is classified as Least Threatened as it is largely excluded from agricultural practices. The conservation target is 28% with 5% being conserved in the various reserves such as the Gariep Dam, Rolfontein, Tussen Die Riviere, Caledon and Kalkfontein Dam Nature Reserve.

This vegetation type dominates the project area and occurs on slopes and high lying areas of the ridges (Figure 5-7). All the turbines occur within this vegetation type.

#### *Eastern Upper Karoo*

The Eastern Upper Karoo vegetation type occurs in the Northern Cape, Eastern Cape and Western Cape and is associated with a flat to gently sloping topography. It is dominated by dwarf microphyllus shrubs and grasses belonging to the *Aristida* and *Eragrostis* genera. This vegetation type is classified as Least Threatened with a conservation target of 21%. A portion of this vegetation type has been conserved in Mountain Zebra and Karoo National Parks as well as in Oviston, Commando Drift, Rolfontein and Gariep Dam Nature Reserves.

This vegetation type occurs in the low lying, flat areas of the project area and will be impacted on by access roads and powerlines (Figure 5-7).

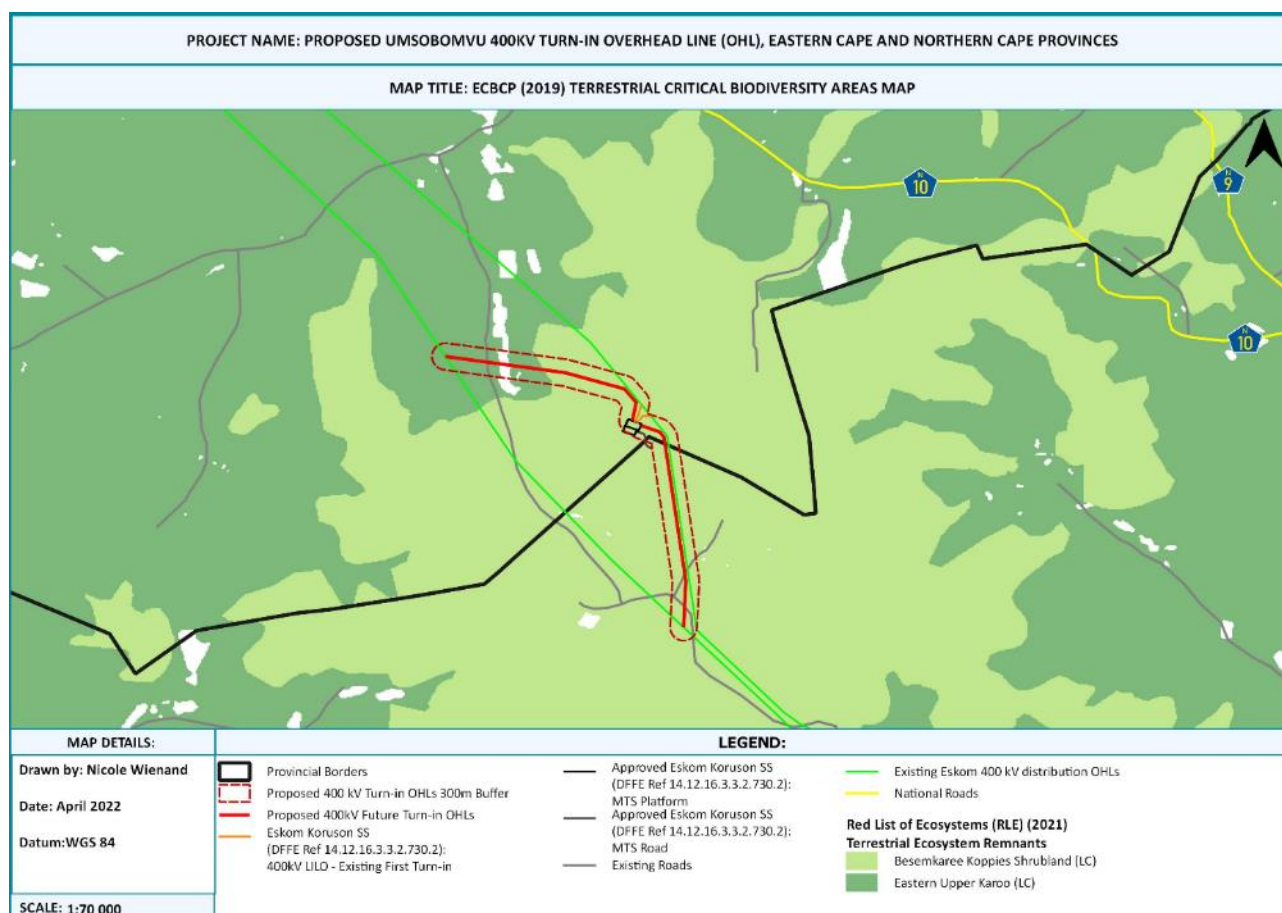


Figure 5-7: Vegetation map showing the National Biodiversity Index (NBI) vegetation type of the proposed Umsobomvu 400kV Turn-in System.



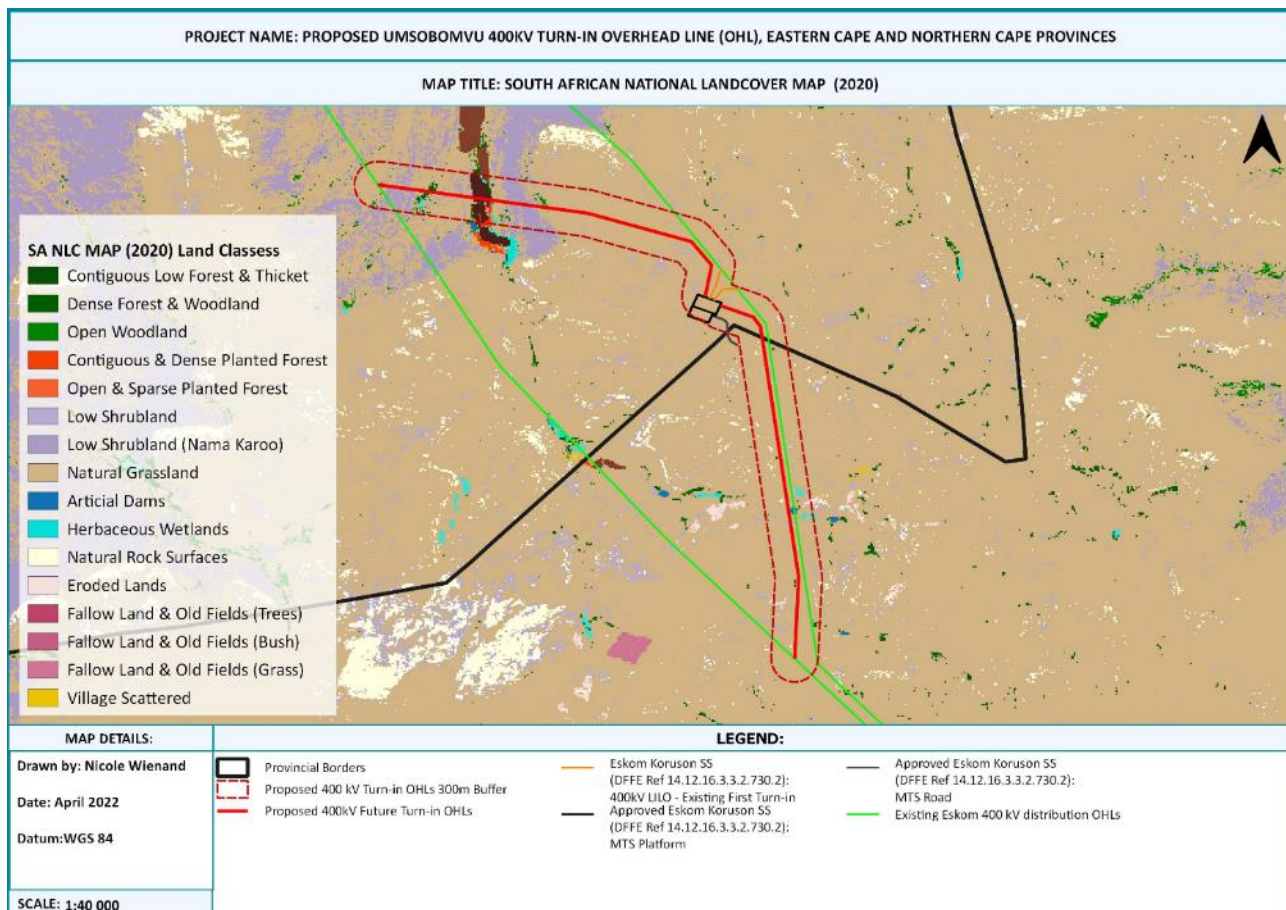


Figure 5-8: Land-use map of the proposed Umsobomvu 400kV Turn-in System.

## 5.1.8 FAUNA

### Mammals

Large game makes up less than 15% of the mammal species in South Africa and a much smaller percentage in numbers and biomass. In developed and farming areas, this percentage is greatly reduced, with the vast majority of mammals present being small or medium-sized. The conservation status of South African mammals has recently been re-assessed and a number of species have been downgraded, for example, the African wild cat, Aardvark, Blue duiker, and Honey badger are no longer considered threatened.

Mammals likely to occur within the project area and their conservation status are listed in Table 5-2 and those observed during the site survey have been noted.

Wind energy facilities release low frequency sound (or infrasound), inaudible by humans, but which can interrupt communication between larger mammal species, including elephant and rhinos. As these species do not presently inhabit the study site or surrounding areas, this impact is not considered relevant for this study. The impact of infrasound on the health and functioning of faunal populations are however unknown and long-term research and monitoring of selected faunal groups may need to be carried out in order to determine the impact.

The potential for a OHL to impact on the behaviour of animals is yet untested. The proposed Umsobomvu OHL may impact on fauna in several direct or indirect ways including:

- Direct loss of habitat for niche specific species.
- Changes in predator/prey relationship due to presence of powerline pylons.

**Table 5-2: Mammals likely to naturally occur within the project area and surrounds according to geographical distribution (Stuart and Stuart, 2007)**

Common Name	Scientific Name	South African Red Data Book Status	IUCN Conservation Status	NEM:BA Status	Observed
Aardvark	<i>Orycteropus afer</i>	Least concern	Least concern	-	-
Aardwolf	<i>Proteles cristatus</i>	Least concern	Least concern	-	Yes
African Striped Weasel	<i>Poecilogale albinucha</i>	Data deficient	Least concern	-	-
African Wild Cat	<i>Felis silvestris</i>	Least concern	Least concern	-	-
Bat-eared Fox	<i>Otocyon megalotis</i>	Least concern	Least concern	-	Yes
Black-backed Jackal	<i>Canis mesomelas</i>	Least concern	Least concern	-	Yes
Brant's Whistling Rat	<i>Parotomys brantsii</i>	Least concern	Least concern	-	-
Bush Karoo Rat	<i>Otomys unisulcatus</i>	Least concern	Least concern	-	-
Bushveld Gerbil	<i>Tatera leucogaster</i>	Data deficient	Least concern	-	-
Cape Fox	<i>Vulpes chama</i>	Least concern	Least concern	Protected	-
Cape Hare	<i>Lepus capensis</i>	Least concern	Least concern	-	Yes
Cape Porcupine	<i>Hystrix africaeaustralis</i>	Least concern	Least concern	-	Yes
Cape Short-tailed Gerbil	<i>Desmodillus auricularis</i>	Least concern	Least concern	-	-
Caracal	<i>Caracal caracal</i>	Least concern	Least concern	-	-
Common Duiker	<i>Sylvicapra grimmia</i>	Least concern	Least concern	-	Yes
Common Mole-rat	<i>Cryptomys hottentotus</i>	Least concern	Least concern	-	-
Eastern Rock Sengi	<i>Elephantulus myurus</i>	Least concern	Least concern	-	-
Four-striped Grass Mouse	<i>Rhabdomys pumilio</i>	Least concern	Least concern	-	-
Grant's Rock Mouse	<i>Aethomys granti</i>	Least concern	Least concern	-	-
Greater Kudu	<i>Tragelaphus strepsiceros</i>	Least concern	Least concern	-	Yes
Grey Rhebok	<i>Pelea capreolus</i>	Least concern	Least concern	-	-
Hairy-footed Gerbil	<i>Gerbillurus paeba</i>	Least concern	Least concern	-	-
Highveld Gerbil	<i>Tatera brantsii</i>	Least concern	Least concern	-	-
Honey Badger	<i>Mellivora capensis</i>	Near threatened	Least concern	-	-
House Mouse	<i>Mus musculus</i>	Least concern	Least concern	-	-
Large-eared Mouse	<i>Malacothrix typica</i>	Least concern	Least concern	-	-
Mountain Reedbuck	<i>Redunca fulvorufula</i>	Least concern	Least concern	-	-
Namaqua Rock Mouse	<i>Aethomys namaquensis</i>	Least concern	Least concern	-	-
Pouched Mouse	<i>Saccostomus campestris</i>	Least concern	Least concern	-	-
Pygmy Mouse	<i>Mus minutoides</i>	Least concern	Least concern	-	-
Red Veld Rat	<i>Aethomys chrysophilus</i>	Least concern	Least concern	-	-
Reddish-grey Musk Shrew	<i>Crocidura cyanea</i>	Data deficient	Least concern	-	-
Rock Hyrax	<i>Procavia capensis</i>	Least concern	Least concern	-	Yes
Round-eared Sengi	<i>Macroscelides proboscideus</i>	Least concern	Least concern	-	-
Savanna Baboon	<i>Papio cynocephalus ursinus</i>	Least concern	Least concern	-	Yes
Sclater's Golden Mole	<i>Balaenoptera borealis schlegellii</i>	Data deficient	No data	-	-
Scrub Hare	<i>Lepus saxatilis</i>	Least concern	Least concern	-	Yes
Sloggett's Rat	<i>Otomys sloggetti</i>	Data deficient	Least concern	-	-
Small Grey Mongoose	<i>Galerella pulverulenta</i>	Least concern	Least concern	-	Yes
Small Spotted Cat	<i>Felis nigripes</i>	Least concern	Vulnerable C2a(i)	Protected	-
Small-spotted Genet	<i>Genetta genetta</i>	Least concern	Least concern	-	-
Smith's Red Rock Rabbit	<i>Pronolagus rupestris</i>	Least concern	Least concern	-	-
South African Hedgehog	<i>Atelerix frontalis</i>	Near threatened	Least concern	Protected	-
Southern African Ground Squirrel	<i>Xerus inauris</i>	Least concern	Least concern	-	Yes



Common Name	Scientific Name	South African Red Data Book Status	IUCN Conservation Status	NEM:BA Status	Observed
Southern Multimammate Mouse	<i>Mastomys coucha</i>	Least concern	Least concern	-	-
Spectacled Dormouse	<i>Graphiurus ocularis</i>	Least concern	Least concern	-	-
Springbok	<i>Antidorcas marsupialis</i>	Least concern	Least concern	-	Yes
Springhare	<i>Pedetes capensis</i>	Least concern	Least concern	-	-
Steenbok	<i>Raphicerus campestris</i>	Least concern	Least concern	-	Yes
Striped Polecat	<i>Ictonyx striatus</i>	Least concern	Least concern	-	-
Suricate/Meerkat	<i>Suricata suricatta</i>	Least concern	Least concern	-	Yes
Vervet Monkey	<i>Cercopithecus aethiops pygerythrus</i>	Least concern	Least concern	-	Yes
Vlei Rat	<i>Otomys irroratus</i>	Least concern	Least concern	-	-
Warthog	<i>Phacochoerus africanus</i>	Least concern	Least concern	-	Yes
Western Rock Sengi	<i>Elephantulus rupestris</i>	Least concern	Least concern	-	-
White-tailed Mongoose	<i>Ichneumia albicauda</i>	Least concern	Least concern	-	-
White-tailed Mouse	<i>Mystromys albicaudatus</i>	Endangered	Endangered A3c	-	-
Yellow Mongoose	<i>Cynictis penicillata</i>	Least concern	Least concern	-	Yes

### 5.1.9 AMPHIBIANS AND REPTILES

Amphibians and reptiles are well represented in sub-Saharan Africa. However, distribution patterns in southern Africa are uneven both in terms of species distribution and in population numbers (du Preez and Carruthers, 2009). Climate, centres of origin and range restrictions are the three main factors that determine species distribution. The eastern coast of South Africa has the highest amphibian diversity and endemism while reptile diversity is generally highest in the north-eastern extremes of South Africa and declines to the south and west (Alexander and Marais, 2010).

#### Reptiles

South Africa has 350 species of reptiles, comprising 213 lizards, 9 worm lizards, 105 snakes, 13 terrestrial tortoises, 5 freshwater terrapins, 2 breeding species of sea turtle and 1 crocodile (Branch, 1998). Of those 350 reptile species, the Eastern Cape is home to 133 which include 21 snakes, 27 lizards and eight chelonians (tortoises and turtles). The majority of these are found in Mesic Succulent Thicket and riverine habitats. Consultation of the Animal Demography Unit historical records for the Quarter Degree Squares that the project area falls within (3124BD, 3124BC and 3124BB) indicates that 14 species of reptiles are likely to occur in the project site. None of these are listed as species of conservation concern although the Marico Gecko (*Pachydactylus mariquensis*) and Greater padloper (*Homopus femoralis*) are listed as endemic (SARCA 2014). All species likely to occur within the project area are listed as Least Threatened.

**Table 5-3: The project area of the proposed Umsobomvu 400kV Turn-in System falls within the geographical ranges of the following reptilian fauna**

Common name	Scientific name
Delalande's Blind Snake	<i>Rhinotyphlops lalandei</i>
Southern Brown House Snake	<i>Lamprophis capensis</i>
Spotted House Snake	<i>Lamprophis guttatus</i>
Fisk's House Snake	<i>Lamprophis fiskii</i>
Mole Snake	<i>Pseudapsis cana</i>
Sundevall's Shovel-snout	<i>Prosymma sundervallii</i>
Rhombic Skaapsteker	<i>Psammophylax rhombeatus</i>
Karoo Sand Snake	<i>Psammophis notostictus</i>
Cross-marked Grass snake	<i>Psammophis crucifer</i>
Dwarf Beaked Snake	<i>Dipsina multimaculata</i>
Common Egg Eater	<i>Dasypeltis scabra</i>
Red-lipped Snake	<i>Crotaphopeltis hotamboeia</i>

Common name	Scientific name
Coral Snake	<i>Aspidelaps lubricus</i>
Cape Cobra	<i>Naja nivea</i>
Puff Adder	<i>Bitis arietans</i>
Western Rock Skink	<i>Trachylepis sulcata</i>
Cape Skink	<i>Trachylepis capensis</i>
Western Three-striped Skink	<i>Trachylepis occidentalis</i>
Variegated Skink	<i>Trachylepis variegata</i>
Burchell's Sand Lizard	<i>Pedioplanis burchelli</i>
Namaqua Sand Lizard	<i>Pedioplanis namaquensis</i>
Spotted Sand Lizard	<i>Pedioplanis lineoocellata</i>
Cape Girdled Lizard	<i>Cordylus cordylus</i>
Karoo Girdled Lizard	<i>Cordylus tropidosternum</i>
Cape Crag Lizard	<i>Cordylus microlepidotus</i>
Rock Monitor	<i>Varanus albigularis</i>
Southern Rock Agama	<i>Agama atra</i>
Ground Agama	<i>Agama aculeata</i>
Karoo Flat Gecko	<i>Afroedura karroica</i>
Bibron's Thick-toed Gecko	<i>Pachydactylus bibronii</i>
Spotted Thick-toed Gecko	<i>Pachydactylus maculatus</i>
Mario Thick-toed Gecko	<i>Pachydactylus mariquensis</i>
Marsh Terrapin	<i>Pelomedusa subrufa</i>
Greater Padloper	<i>Homopus femoralis</i>
Leopard Tortoise	<i>Geochelone pardalis</i>
Tent Tortoise	<i>Psammobates tentorius</i>

The main impact of the proposed Umsobomvu OHL on reptile fauna within the project area is through habitat loss, especially in rocky outcrop areas .

### Amphibians

Amphibians are important in wetland systems, particularly where fish are excluded or of minor importance. In these habitats, frogs are dominant predators of invertebrates. Reports of declining amphibian populations continue to increase globally, even in pristine protected areas (Phillips 1994). These declines are not simple cyclic events; for example, frogs have been identified as bio-indicator species that reflect the wellbeing of aquatic ecosystems (Poynton and Broadley 1991). Frog abundance and diversity is a poignant reflection of the general health and well-being of aquatic ecosystems. According to historical records, eight species of frog have been documented in the Quarter Degree Squares that the project area falls within. Only one of these species is listed as Near Threatened (*Pyxicephalus adspersus*/African Bullfrog), all the others are listed as Least Concern.

**Table 5-4: The project area of the proposed Umsobomvu 400kV Turn-in System falls within the geographical ranges of the following amphibian fauna**

Common name	Scientific name	IUCN Conservation Status
Common Platanna	<i>Xenopus laevis</i>	Least concern
Giant Bullfrog	<i>Pyxicephalus adspersus</i>	Least concern
Tandy's Sand Frog	<i>Tomopterna tandyi</i>	Least concern
Karoo Toad	<i>Vandijkophrynus gariepensis</i>	Least concern
Southern Pygmy Toad	<i>Poyntonophrynus vertebralis</i>	Least concern
Common River Frog	<i>Amietia angolensis</i>	Least concern
Cape River Frog	<i>Amietia fuscigula</i>	Least concern
Boettger's Caco	<i>Cacosternum boettgeri</i>	Least concern
African Bullfrog	<i>Pyxicephalus adspersus</i>	Near threatened

Potential impacts of the proposed Umsobomvu 400kV Turn-in System on the amphibian population may include habitat disturbance.

### **5.1.10      *INVERTEBRATES***

Generally invertebrates are a group of faunal assemblages with no vertebral column. This includes the large range of fauna including, but not limited to: Arthropoda (insects, spiders and crabs), Nematoda and Annelida (worms) and Mollusca (snails, clams and squids).

Representative species from all these phyla will be present within the project area. No detailed assessment of invertebrates has been included in this initial site description. The impacts on invertebrate communities may be associated with direct loss of habitat.

### **5.1.11      *AVIFAUNA***

#### ***Important Bird Areas (IBA's) – Birdlife International***

The selection of Important Bird Areas (IBAs) is achieved through the application of quantitative ornithological criteria, grounded in up-to-date knowledge of the sizes and trends of bird populations. The criteria ensure that the sites selected as IBAs have true significance for the international conservation of bird populations, and provide a common currency that all IBAs adhere to, thus creating consistency among, and enabling comparability between, sites at national, continental and global levels.

It is crucial to understand why a site is important, and to do this it is necessary to examine its international significance in terms of the presence and abundance of species that occur there, year-round or seasonally. At the global level, a set of four categories and criteria are used to assess the significance of the site.

The global IBA criteria are as follows:

#### ***A1. Globally threatened species***

- Criterion: The site is known or thought to hold significant numbers of a globally threatened species, or other species of global conservation concern.
- The site qualifies if it is known, estimated or thought to hold a population of a species categorized by the IUCN Red List as Critically Endangered, Endangered or Vulnerable. In general, the regular presence of a Critical or Endangered species, irrespective of population size, at a site may be sufficient for a site to qualify as an IBA. For Vulnerable species, the presence of more than threshold numbers at a site is necessary to trigger selection.

#### ***A2. Restricted-range species***

- Criterion: The site is known or thought to hold a significant component of a group of species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).
- This category is for species of Endemic Bird Areas (EBAs). EBAs are defined as places where two or more species of restricted range, i.e. with world distributions of less than 50 000 km<sup>2</sup>, occur together. More than 70% of such species are also globally threatened. Also included here are species of Secondary Areas.

#### ***A3. Biome-restricted species***

- Criterion: The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome.
- This category applies to groups of species with largely shared distributions of greater than 50 000km<sup>2</sup>, which occur mostly or wholly within all or part of a particular biome and are, therefore, of global importance.

#### ***A4. Congregations***

- Criteria: A site may qualify on any one or more of the four criteria listed below:

- i. The site is known or thought to hold, on a regular basis,  $\geq 1\%$  of a biogeographic population of a congregatory waterbird species.
- ii. The site is known or thought to hold, on a regular basis,  $\geq 1\%$  of the global population of a congregatory seabird or terrestrial species.
- iii. The site is known or thought to hold, on a regular basis,  $\geq 20\,000$  waterbirds or  $\geq 10\,000$  pairs of seabirds of one or more species.
- iv. The site is known or thought to exceed thresholds set for migratory species at bottleneck sites.

**IBA's in relation to the proposed Umsobomvu 400kV Turn-in System (within 50km)**

Platberg-Karoo Conservancy (SA037)	
Location	Northern Cape Province, South Africa
Central coordinates	24° 10.00' East 30° 37.00' South
Protection Status	Unprotected
IBA criteria	A1, A3, A4i, A4ii
Area	1,200,000 ha
Altitude	1,100 - 1,691m
Year of IBA assessment	2001

**Table 5-5: The IBA trigger species include:**

Species	IBA criteria	IUCN category
Black Stork ( <i>Ciconia nigra</i> )	A4i	Least Concern
Lesser Kestrel ( <i>Falco naumanni</i> )	A1, A4ii	Least Concern
Ludwig's Bustard ( <i>Neotis ludwigii</i> )	A3	Endangered
Karoo Bustard ( <i>Heterotetrax vigorsii</i> )	A3	Least Concern
Blue Bustard ( <i>Eupodotis caerulea</i> )	A1	Near Threatened
Blue Crane ( <i>Anthropoides paradiseus</i> )	A1, A4i	Vulnerable
Karoo Long-billed Lark ( <i>Certhilauda subcoronata</i> )	A3	Least Concern
Karoo Lark ( <i>Certhilauda albescens</i> )	A3	Least Concern
Namaqua Warbler ( <i>Phragmacia substriata</i> )	A3	Least Concern
Layard's Warbler ( <i>Sylvia layardi</i> )	A3	Least Concern
Pale-winged Starling ( <i>Onychognathus nabouroup</i> )	A3	Least Concern
Sicklewing Chat ( <i>Cercomela sinuata</i> )	A3	Least Concern
Karoo Chat ( <i>Cercomela schlegelii</i> )	A3	Least Concern
Tractrac Chat ( <i>Cercomela tractrac</i> )	A3	Least Concern
Black-headed Canary ( <i>Serinus alario</i> )	A3	Least Concern

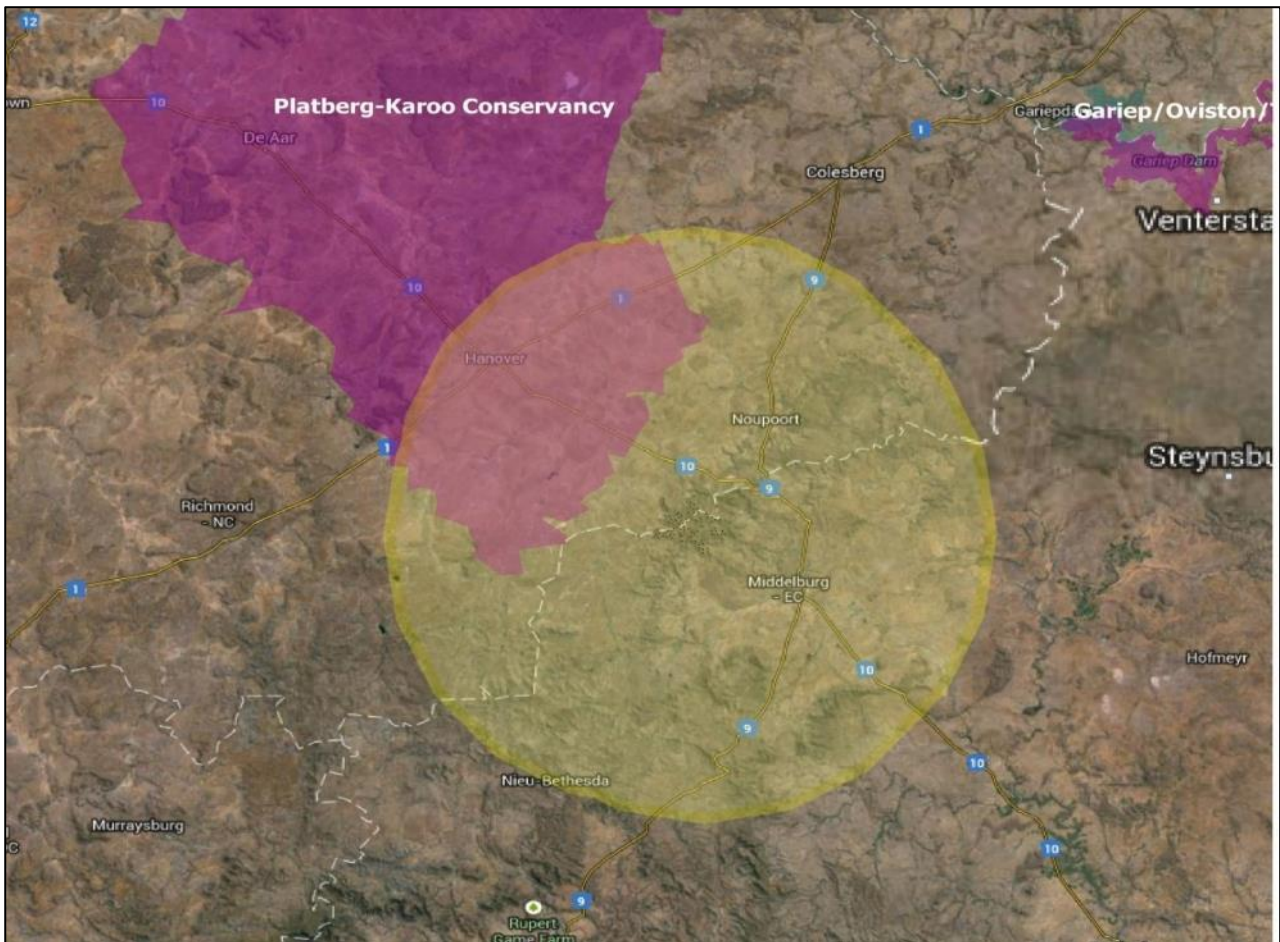
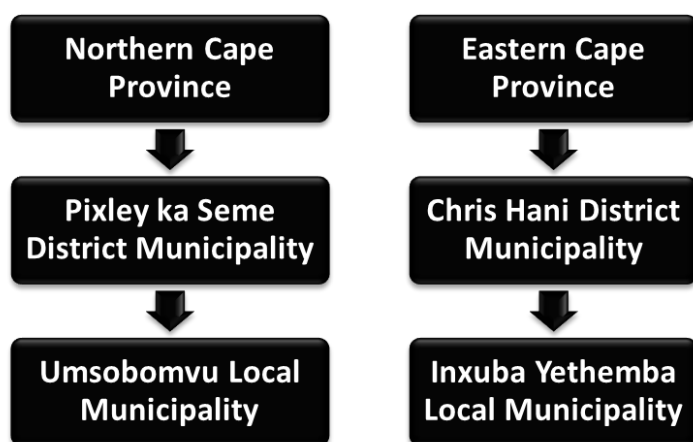


Figure 5-9: IBAs situated within 50km of proposed Umsobomvu 400kV Turn-in System.

## 5.2 SOCIO-ECONOMIC PROFILE

The project site is situated on four farm portions and is located in two Local and two District Municipalities across two Provinces, as illustrated below:



The landscape of the site is typical Karoo with a low average annual rainfall and high annual evaporation. Most of the settlements and towns in the study area are dependent on ground water as their primary water source. (Umsobomvu LM IDP).



The settlements in and around the study area are small and far apart, which makes it difficult for regional service schemes to be economically viable. Other socio-economic issues, which place pressure on finances and service delivery, include the following:

- A shortage in skilled labour;
- A high number of households faced with financial hardships;
- A housing backlog and an increase in informal settlements;
- An increase in HIV infections amongst the youth; and
- Alcohol and substance abuse (Umsobomvu LM IDP).

### 5.2.1 MUNICIPAL BACKGROUND

Key features of the affected municipalities are set out in Table 5-6.

**Table 5-6: Key Features of the Affected Municipalities:**

Municipality	Province	Area	Main towns / Settlements
<b>Chris Hani DM</b> (Eight Local Municipalities)	Eastern Cape	36 558 km <sup>2</sup>	Queenstown, Cradock, Middelburg
<b>Inxuba Yethemba LM</b> (Nine wards)	Eastern Cape	11 663 km <sup>2</sup>	Cradock, Middelburg and numerous peri-urban and rural settlements
<b>Pixley ka Seme DM</b> (Eight Local Municipalities)	Northern Cape	103 410 km <sup>2</sup>	De Aar, Britstown, Carnarvon, Colesburg, Copperton, Loxton, Marydale, Norvalspont, Noupoot, Prieska, Richmond, Victoria West, etc.
<b>Umsobomvu LM</b> (Five wards)	Northern Cape	6 819 km <sup>2</sup>	Colesburg, Noupoot, Norvalspont.

### 5.2.2 POPULATION STATISTICS

The Northern Cape Province has the lowest and most stable population in the country, amounting to approximately 2.5% of South Africa's population. The Eastern Cape, on the other hand, showed a marked decline in its population (from 15.1% in 1996 to 12.7% in 2011). This population decline is largely attributed to the out-migration by jobseekers to other provinces.

The generalised population figures of the four affected Municipalities (local and district) are set out in the table below.

**Table 5-7: Population figures for the affected Municipalities (Census 2011; [www.world-data-atlas.com](http://www.world-data-atlas.com))**

	Chris Hani DM	Inxuba Yethemba LM	Pixley ka Seme DM	Umsobomvu LM
<b>Population</b>	795 461	65 560	186 352	28 376
<b>Population growth (2001-2011)</b>	-0.6%	7.9%	10.6%	16.7%
<b>Percentage of District's population</b>	-	8%	-	15%
<b>Sex ratio (Males per 100 females)</b>	-	93.5	-	93.2

### 5.2.3 AGE STRUCTURE

The age structures of the various municipalities display similar features. The majority of the population constitutes the Economic Active Population (EAP) group aged between 15 and 64 years (58 to 65%).



## 5.2.4 EMPLOYMENT STATISTICS

Employment status refers to whether a person is employed, unemployed or not economically active. The employment rate represents the number of individuals employed as a percentage of the labour force. The labour force comprises the 15–64-year-old population that is ready and able to work, excluding persons not economically active (scholars, housewives, pensioners, disabled) and discouraged work-seekers.

According to Census data (2011), the unemployment rate of both the Eastern and Northern Cape is 30%.

As reflected in Figure 5-10, unemployment is a major challenge in all four of the affected Local and District Municipalities.

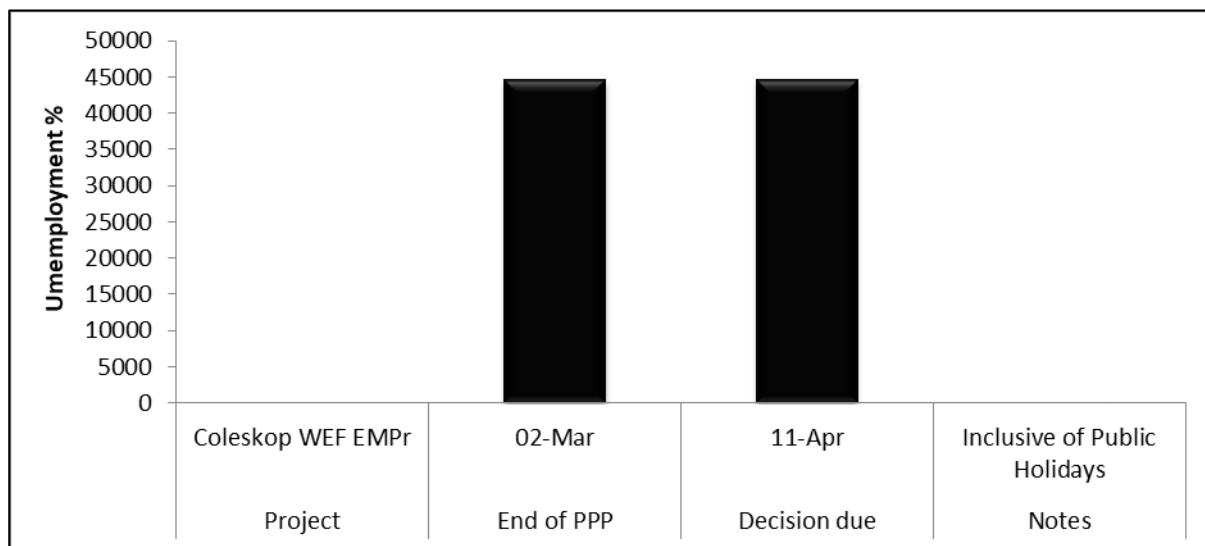


Figure 5-10: Unemployment statistics (Census 2011)

The high unemployment rate has serious social and financial consequences for the affected local economies, as the following become evident:

- The ability of residents to pay for their daily requirements and services are impeded;
- There is a high dependence on social grants;
- People survive on subsistence farming and labour intensive jobs and do not develop skills for enhanced employment opportunities;
- The main sources of income for many families are from family members that work in urban centres; and
- One or both parents are often absent seeking employment in other areas or provinces.

## 5.2.5 HOUSEHOLD INCOME

The majority of households in the study area face daily challenges with regards to poverty, education, health and employment. The average household income for Umsobomvu LM is between R400 and R800 per month (Census 2011). A large proportion of Inxuba Yethemba LM's population also earn less than R800 per household per month, although the average income for Wards 6 and 9 is R1600 per household per month and Ward 5 have an average household income of R12 800 per month. This is also the Ward with the highest education levels (32% of the residents have a Grade 12 qualification) and demonstrates the direct correlation between income and education.

## 5.2.6 ECONOMIC PROFILE

The Chris Hani District economy is heavily reliant on Community Services (52%), followed by Trade (15%) and Finance (14%). The DM is rural in nature, characterised by agricultural activities and needs to facilitate the development of the entrepreneur driven sectors; such as agriculture, construction and manufacturing as they have the greatest employment potential for the people of the area. The Chris Hani DM has thus placed

emphasis on Local Economic Development, especially SMME development and support to help develop future entrepreneurs.

Manufacturing also represents a significant portion of the Chris Hani DM economy (8% GGP and 5% employment). Industries such as furniture and wood product industries, dairy processing, food processing, pressed metal and leather processing occur (Chris Hani DM Final IDP).

The N10 National Road that runs through the Inxuba Yethemba LM is a vital economic link between Port Elizabeth and the north. The economy of the Local Municipal area is largely based on agriculture and tourism with small and medium enterprises, formal sectors such as governmental departments, finance and commercial institutions.

The Orange River and Vaal River flow through the Pixley ka Seme DM and intensive crop farming activities exist on the banks of these rivers. However, towns situated a few kilometres away from the river experience water shortages, which has an adverse impact on the district's economy. The main economic sectors include agriculture, manufacturing, construction, trade, finance and business services.

Umsobomvu LM has a declining economy that is largely based on sheep farming, with the highest percentage of people employed in the agricultural sector. The second highest employment is by community, social and personal services including government associations. In the past, the economy was heavily dependent on Spoornet (Noupoort Station), and has since declined due to their withdrawal.

Farming in the area primarily consists of horses and Merino sheep. Sheep-farming is spread over half-a-million hectares and the greater Colesburg area breeds many of the country's top Merinos. The area is also renowned for producing high-quality racehorses and many stud farms, including one owned by legendary golfer, Gary Player. The ostrich-feather boom of the early 1900s, which left many farmers rich, has been forgotten.

The Colesburg area shows promising growth in terms of tourism and the Municipality prides itself as a natural transportation route for people travelling to destinations such as Cape Town, Port Elizabeth, Gauteng and Bloemfontein since two of the major national roads, namely N1 and N9 pass through the Municipality (Umsobomvu LM IDP).

### **5.2.7 TOURISM**

The districts have a rich history and untapped natural resources that could promote tourism development in the regions. There are existing access roads to major routes (N1, N9, N6 and N10) which link the districts to the major centres of various provinces. Growth in the tourism sector could support and enhance the emergence of supporting industry and services. Some of the opportunities that exist are wildlife, adventure activities (hiking trails, abseiling, fishing, etc.), historical buildings and battle sites, rock art, Memorials, Museums, etc.

### **5.2.8 HERITAGE: CULTURE, HISTORY AND ARCHAEOLOGY**

The Archaeological study was undertaken by Mr Gavin Anderson of Umlando Archaeological Surveys & Heritage Management. The information below has been summarised by Mr Anderson after he conducted a desktop background assessment of the Umsobomvu 400kV Turn-in OHL area. The full detail of his study are available in Chapter 7 of this EIR.

#### ***History and Culture***

A desktop assessment of potential historical and cultural sites, in the general area, has been conducted based on a number of considerations, which are listed below.

Cultural heritage sites are categorised as:

- Sites within the last 60 years.
  - Settlements that are currently inhabited and may or may not have human graves.
  - Settlements that are recently abandoned and may or may not have human graves.
  - Older human settlements (between 10 and 60 years) that are abandoned and probably all have human graves.
- Historical.
  - Human settlements with graves (older than 60 years).
  - Rock art.
  - Colonial farm buildings and their rubbish middens.
  - Colonial farm walling and cattle byres.
  - Towns and their buildings.
  - Features related to the Groot Trek, in this area.
  - Farm boundaries.
  - Cemeteries: farm and battlefields.
- Cultural landscape: How people have modified the landscape and/or have special meaning to specific parts of the landscape. This will include historical farm walls that occur in the study area, gardens of old houses, etc.
- Oral History: Sites that have significance to local people but have not been recorded. These are normally associated with historical events. No known sites occur in the data base.
- Living Heritage sites are those areas that have (historical) meaning and reference to an individual and/or group of people. These can be tangible and non-tangible areas. No known sites have been recorded.

***Sites of importance identified from desktop assessment***

The time categories specific to the site include the Historical Period (1820-1900), the Late Stone Age (c. 30 000 – 1 100 years ago), the Middle Stone Age (250 000 – 30 000 years ago) and the Early Stone Age (1 million 0 250 000 years ago).

- The Historical Period in this area consists of the first colonisation of the Europeans (1820's) onwards; grave sites and cattle kraals are evident in the vicinity of the site.
- Rock art was found on the overhangs in the area as remnants of activity during the Late Stone Age.
- Stone tools were discovered during the site visit as evidence of activity in the area during the Middle Stone Age.

## 6 ALTERNATIVES

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### 6.1 REASONABLE AND FEASIBLE ALTERNATIVES

One (1) of the requirements of a EIA Process is to investigate alternatives associated with a proposed project. Alternatives should include consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. In all cases, the no-go alternative must be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether the site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

“Alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- The property on which or location where it is proposed to undertake the activity;
- The type of activity to be undertaken;
- The design or layout of the activity;
- The technology to be used in the activity;
- The operational aspects of the activity; and/or
- The option of not implementing the activity (no-go alternative).

### 6.2 FUNDAMENTAL, INCREMENTAL AND NO-GO ALTERNATIVES

#### 6.2.1 FUNDAMENTAL ALTERNATIVES

Fundamental alternatives are developments which are completely different to the proposed project description and usually include the following:

- Alternative property or location where it is proposed to undertake the activity;
- Alternative type of activity to be undertaken; and
- Alternative technology to be used in the activity.

#### 6.2.2 INCREMENTAL ALTERNATIVES

Incremental alternatives relate to modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. Incremental alternatives which can be considered, include:

- Alternative design or layout of the activity; and
- Alternative operational aspects of the activity.

#### 6.2.3 NO-GO ALTERNATIVE

It is mandatory to consider the “no-go” option during the EIA Process. The “no-go” alternative refers to the current status quo and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable (e.g. an existing contaminated site earmarked for a development). The no-go is the continuation of the existing land use, i.e. to maintain the status quo.

#### **6.2.4 ANALYSIS OF ALTERNATIVES**

Table 6-1 includes the assessment of the alternatives which have been considered, including the advantages and disadvantages and provides further comments on the selected alternatives.



**Table 6-1. Alternatives which were Considered during the Umsobomvu 400kV Turn-in OHL System.**

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
<b>PROPERTY OR LOCATION</b> This refers to the fundamental location options, and the environmental risks and impacts associated with such options.	<b>Alternative location 1:</b> Current proposed site (Preferred alternative).  The proposed location of the pylons within the assessed corridor will be determined based on the environmental sensitivity assessment. This site has been selected due the authorised Koruson SS and the four associated WEFs.	→ The preferred alternative is suitably located to supplement the development of the authorised Koruson SS and the associated renewable energy projects authorised within its vicinity.  → The location of the powerline within the corridor will be determined based on the site sensitivity.  → The primary land uses within this property, such as grazing, will be able to continue on the remainder of the property.	<ul style="list-style-type: none"> <li>Potential Avifaunal Sensitivities</li> </ul>	YES	The main determining factor for selecting the proposed property is because the proposed study area is suitably located to supplement the development of authorised WEF and PV facilities within the vicinity of the authorised Koruson SS.
	<b>Alternative location 2:</b> No alternative properties have been identified or assessed.	N/A	N/A	N/A	
<b>TYPE OF TECHNOLOGY</b> This refers to the fundamental technology options and the environmental risks and impacts associated with such options.	<b>Alternative technology</b> Monopole technology		→	YES	

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
<b>DESIGN OR LAYOUT</b> This relates mostly to alternative ways in which the proposed development or activity can be physically laid out on the ground to minimise or reduce environmental risks or impacts	<b>Alternative layout 1:</b> Current proposed layout to be determined based on the assessment of the sensitivity within the 600m wide corridor.	→ The preferred layout alternative will consider the environmental sensitivities of the 600m wide corridor, including ecological, avifaunal, archaeological and paleontological sensitivity, to determine the suitable routing of the powerline and the siting of the pylons. → The environmental sensitivities identified in the National Screening Tool Report, the Terrestrial Biodiversity, Avifaunal, Paleontologically and Archaeological Specialist Reports, the baseline description and during the site investigation(s) will be considered.	→ The cumulative impact of additional infrastructure within this renewable energy cluster. → Potential avifaunal sensitivities.	YES	The layout alternatives consist of the siting of the proposed Umsobomvu 400kV OHLs within the assessable 600m wide corridor.
	<b>Alternative layout 2:</b> The layout alternatives consist of different possible locations within the 600m wide corridor.	As above.	As above.	N/A	
<b>OPERATIONAL ASPECTS</b> This relates mostly to alternative ways in which the development or activity can	<b>Alternative operational activities:</b> Careful implementation of the EMPr (with updates to the working document) to inform the operational aspects of the Umsobomvu 400kV OHL.	→ The operational aspects of the Umsobomvu OHL will be informed by the EMPr, which will be updated include the recommendations, mitigation measures and conditions of the EIA	→ Unanticipated environmental and/or social impacts could still occur during the operation of the Umsobomvu 400kV Turn-in OHL System which may require the EMPr to be updated with additional recommendations and mitigation measures, as frequently as	YES	The EMPr will inform the operational activities of the Umsobomvu OHLs and should be updated with additional recommendations and/or mitigation measures when required. The implementation of the recommendations and

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
operate in order to reduce environmental risks or impacts		Process (including Stakeholder and I&AP input), Terrestrial Biodiversity Specialist Report, Avifaunal Specialist Report, Palaeontological Specialist Report and Archaeological Specialist Report, and the Environmental Authorisation.	required, during both the construction and the operation of the Umsobomvu 400kV Turn-in OHL System.		mitigation measure in the EMPr will significantly reduce the environmental and social risks associated with the Umsobomvu OHLs.
<b>TYPE OF ACTIVITY</b> This refers to the fundamental activity options within the proposed location.	<b>Alternative activity 1:</b> The development of the proposed Umsobomvu 400kV Turn-in OHL System within the proposed location.	→ The Umsobomvu 400kV Turn-in OHL System will supplement the authorised Koruson SS and associated renewable facilities authorised within the area. → The Umsobomvu OHLs will allow the energy generated from the renewable energy facilities to be evacuated, via the Koruson SS, into the main Eskom distribution line running south. → The construction and operation of the Umsobomvu 400kV Turn-in OHL System will create employment opportunities.	→ The loss of indigenous vegetation, for the placement of powerline pylons → The potential risk of bird collisions with the OHLs. → The potential loss of archaeological and cultural heritage resources during the construction of the OHLs.	YES	The No-Go Option has been assessed as an alternative to the development of the proposed Umsobomvu OHLs.
	<b>Alternative activity 2:</b> The “no-go” option, which entails no development within the proposed location.	→ The site will remain largely undeveloped/in a natural state. → Most of the adverse impacts associated with the	→ The benefits associated with the proposed Umsobomvu OHLs, such as supplementing the Koruson SS and associated renewable energy facilities will be lost.	YES	

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
		Umsobomvu OHLs are unlikely to occur in the absence of the development.	→ The benefits associated with the proposed Umsobomvu OHLs, such as the creation of employment opportunities during the construction of the OHLs will be lost.		

## 7 KEY FINDINGS OF THE SPECIALIST STUDIES

Appropriately qualified and experienced specialists were appointed to undertake the various assessments identified as being necessary. Specialists gathered baseline information relevant to the study and assessed impacts associated with the Umsobomvu 400kV OHL. Specialists have also made recommendations to mitigate negative impacts and enhance benefits. The resulting information has been synthesised in the section below, whilst the full specialist reports have been attached to the EIR as a Specialist Report section in Appendix D.

The following Specialist Studies have been completed for the EIA Phase–

- Agricultural Potential Impact Assessment;
- Avifaunal Impact Assessment;
- Ecological Impact Assessment;
- Heritage (Archaeological) Impact Assessment; and
- Paleontological Impact Assessment;

### **Approach**

All specialists were provided with a Draft Layout. The specialists used various sampling techniques (site visits, desktop analyses, long-term monitoring data, short-term monitoring data, amongst others) in order to assess the Draft Layout. The results gathered from each of the specialists were then assessed by the developer in order to inform the EIR Layout presented in this report. This section summarises the key findings of the specialists on the Umsobomvu 400kV OHL site and their opinion on the response of the developer to these findings (on the layout presented in this report). The sensitivity analysis, which includes the sensitive areas highlighted by the specialists, is illustrated and assessed in Chapter 11 of this report.

## 7.1 AGRICULTURE IMPACT ASSESSMENT

<b>STUDY</b>	<b>Agricultural Potential Impact Assessment</b>
<b>SPECIALIST</b>	<b>Dr Andries Gouws</b>
<b>COMPANY</b>	<b>INDEX</b>
<b>QUALIFICATIONS</b>	<b>Specialist Declaration and CV, Appendix E</b>

### **7.1.1 CONCLUSION & SPECIALIST STATEMENT**

The sensitivity analysis is for a line feature. Once installed the lands will remain unaltered and productive. A temporary impact may arise during construction when vehicles traverse the lands. The disturbed portion is normally a strip of land less than 50m wide. The line on grazing land will not be affected, except where the pylons are placed.

The site is located on predominantly animal grazing with a low potential. The income that can be generated by the land proposed for the 400kV PV OHL will make no contribution to the local or country's economy. No high potential land will be lost. Loss of the grazing land will have a no impact on local farmers. It is recommended that PV project and construction of the connecting 400kV OHL be approved.



### 7.1.2 IMPACTS

Constructing the OHL has two potential impacts:

- Loss of high potential cultivated land. As the analyses in the previous section indicates, the potential impact is low if the pylons are placed outside of the lands, and
- Temporary loss of cultivated land and grazing due to disturbance of soil during construction. The impact is local, temporary and of a small magnitude.

### 7.1.3 MITIGATION MEASURES

Construction Phase mitigation measures include:

- Security during construction.
  - Mend camp fences when they are breached in order to protect livestock.
  - Join existing community policing forums and/or similar community structures.
- Dust can be problematic and suppression is necessary. This can be done by spraying with water.
- Make the contact details of the main contractors available to surrounding landowners and attend to any matters expediently.
- Hazardous substances should be safely disposed of or stored to minimise any impact on animals and water resources.

Operational Phase mitigation measures include:

- OHL require no or little maintenance and mitigation is normally not required.
- Implement the Environmental Management Programme (EMPr) for the duration of the operations to eliminate potential impacts.

## 7.2 AVIFAUNAL IMPACT ASSESSMENT

<b>STUDY</b>	<b>Avifaunal Impact Assessment</b>
<b>SPECIALIST</b>	<b>Mr Jon Smallie</b>
<b>COMPANY</b>	<b>WildSkies Ecological Services</b>
<b>QUALIFICATIONS</b>	<b>Specialist Declaration and CV, Appendix E</b>

### 7.2.1 CONCLUSION & SPECIALIST STATEMENT

If the mitigation measures detailed below (Section 7.2.3) are implemented correctly, WildSkies believes that the impacts of the proposed project will be at an acceptable level and recommends the proposed project be authorised to proceed.

### 7.2.2 IMPACTS

The following impacts were raised in the Avifaunal Report. For additional information please refer to Chapter 9 of this report and Chapter 10 of the Avifaunal Report.

The following key issues were raised in the Avifaunal Impact Assessment Report:

- Destruction of bird habitat during the construction phase will be of Low negative significance both pre and post mitigation.
- Disturbance of birds during the construction phase will be of Low negative significance pre and post mitigation.
- Collision of birds with overhead cables on the power line will be of Moderate negative significance pre mitigation and Low negative significance post mitigation.
- Electrocution of birds on the pylons of the power line will be of Moderate negative significance pre mitigation and Negligible negative significance post mitigation.

- The impacts of renewable energy and power lines on birds in this area is of High significance, particularly for habitat destruction and collision.

### 7.2.3 MITIGATION MEASURES

The following mitigation measures are to be implemented:

- All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.
- All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.
- The servitude road for construction should ideally not be scraped open as that will increase habitat destruction.
- The road past the Verreaux's Eagle nest should not be used for construction access.
- The overhead cables (specifically the earth wires) on the power line should be fitted with an approved anti bird collision line marking device to make cables more visible to birds in flight and reduce the likelihood of collisions. This should be done according to the Eskom Transmission standards in terms of device spacing and other factors. Literature around the world points towards a 50-60% reduction in bird collision risk if the line is marked (Jenkins, Smallie & Diamond, 2010; Shaw et al, 2021). The line marking device should be a dynamic (moving – bird flapper type) device.
- The new power line should be patrolled during operation by Eskom annually to measure any impacts on birds (through detecting collision fatalities) and to monitor the durability of the line marking devices.
- Where multiple devices on a span have failed (broken off or become stuck and non-dynamic due to wind) they should be replaced immediately.
- Any recorded bird fatality data should be submitted to the Eskom –EWT Strategic Partnership where it will be curated and publicly accessible.
- The pylon structure to be used provides sufficient clearance between phase and phase and phase and earth to mitigate against the risk of bird electrocution.
- It is also essential that if any of the pylon structures are changed, we are given opportunity to assess the electrocution risk of the new structure and design mitigation.

## 7.3 ECOLOGICAL IMPACT ASSESSMENT

<b>STUDY</b>	<b>Ecological Impact Assessment</b>
<b>SPECIALISTS</b>	<b>Ms Nicole Wienand (Botanist) and Ms Elena Reljic (Zoologist)</b>
<b>COMPANY</b>	<b>CES</b>
<b>QUALIFICATIONS</b>	<b>Specialist Declaration and CV, Appendix E</b>

### 7.3.1 CONCLUSION & SPECIALIST STATEMENT

The proposed development is deemed environmentally acceptable, provided the mitigation measures and recommendations specified in this report are implemented and adhered to. Specific mitigation measures, as specified above, should be incorporated into the EA, if granted, for implementation during the relevant phases of the development.

Furthermore, the development footprint of the proposed Umsobomvu 400 kV LILO OHL must be demarcated to prevent any encroachment of construction or operational activities into surrounding natural areas. Minor location deviations from the proposed works is deemed acceptable but the footprint may not be made larger.

### 7.3.2 IMPACTS

The proposed Umsobomvu 400 kV LILO OHL will result in the loss of approximately 10-15m<sup>2</sup> per pylon within the within the Eastern Upper Karoo vegetation and 10-15m<sup>2</sup> per pylon within the Besemkaree Koppies Shrubland. Pylons are to be between 200m and 375m apart.

Eight (8) impacts were identified for the proposed development; five (5) impacts were classified as moderate and three (3) impacts were classified as low prior to mitigation. If mitigation measures are implemented, these impacts will be reduced to one (1) moderate impact and seven (7) low impacts. No high or very high impacts were identified for the proposed development.

### 7.3.3 MITIGATION MEASURES

All management / mitigation measures identified for the impacts associated with the proposed development must be incorporated into the EMPr and implemented during the relevant phases of the proposed Umsobomvu 400 kV LILO OHL (please refer to Section 5.1 of the Ecological Impact Assessment for the recommended mitigation measures associated with each impact identified). Specific mitigation measures and recommendations that should be incorporated into the EA (if granted) include:

- All necessary permitting and authorisations must be obtained prior to the commencement of any construction activities.
- A suitably qualified ECO must be appointed prior to the commencement of the construction phase.
- A Search and Rescue Operation should be undertaken for protected plant species. In the unlikely event that a population of endangered SCC are found, infrastructure should be shifted to avoid these. Where this is not possible, SCC that are known to survive translocation, must be translocated to the nearest available habitat on the same property.
- If the translocation or removal of SCC is required, a permit must be obtained from the relevant issuing authority.
- A Faunal Search and Rescue must be undertaken directly prior to vegetation clearance.
- ECO to walk ahead of clearing construction machinery and move slow moving species e.g. tortoises and cryptic species out of harm's way and into suitable neighbouring habitat.
- An Erosion Management Plan/Method Statement must be developed prior to the commencement of construction activities in order to mitigate the unnecessary loss of topsoil and runoff.
- The Alien Invasive Vegetation Management compiled for the Umsobomvu WEF must be implemented to this 400kV OHL and must be adhered to during all phases of the proposed development.
- The Rehabilitation Plan compiled for the Umsobomvu WEF must be implemented to this 400kV OHL. Only indigenous plant species typical of the local vegetation should be used for rehabilitation purposes.

## 7.4 HERITAGE IMPACT ASSESSMENT

<b>STUDY</b>	<b>Heritage Impact Assessment</b>
<b>SPECIALIST</b>	<b>Mr Gavin Anderson</b>
<b>COMPANY</b>	<b>Umlando Heritage Consulting</b>
<b>QUALIFICATIONS</b>	<b>Specialist Declaration and CV, Appendix E</b>

### 7.4.1 CONCLUSION & SPECIALIST STATEMENT

A Heritage survey was undertaken for the proposed Umsobomvu 400kV LILO OHL. Much of the area is on an area with alluvial deposits. Within these deposits is a variety of stone tools dating back to the Early, Middle and Late Stone Ages. These tools are all in a secondary context and have little scientific value.

The Colonial Period is represented by the Farm Wolwekloof and Rietpoort, although only parts of Wolwekloof will be affected. The transmission line avoids all the buildings but it might affect subsurface features and

middens. It is for this reason I suggested that they pylons be placed on the edges of the farmstead, and dam wall/quarry, to minimised possible disturbance.

On-site monitoring during excavations may be required at the pylons. A permit will be required to damage historical middens.

A potential grave was noted near the transmission line. This will require buffers at 5m (no-go) and 20m (supervised) from the grave. The grave remains a grave until proven otherwise.

No additional HIA mitigation is required.

### **7.4.2 IMPACTS**

All sensitive artefacts have been avoided and no infrastructure is situated within any of the identified features. Potential negative impact on the stone walling is of concern. A potential grave was noted near the transmission line. This will require buffers at 5m and 20m from the grave. The grave remains a grave until proven otherwise.

### **7.4.3 MITIGATION MEASURES**

On-site monitoring during excavations may be required at the pylons. A permit will be required to damage historical middens.

## **7.5 PALEONTOLOGICAL IMPACT ASSESSMENT**

<b>STUDY</b>	<b>Paleontological Impact Assessment</b>
<b>SPECIALIST</b>	<b>Mr John Almond</b>
<b>COMPANY</b>	<b>Natura Viva</b>
<b>QUALIFICATIONS</b>	<b>Specialist Declaration and CV, Appendix E</b>

### **7.5.1 CONCLUSION & SPECIALIST STATEMENT**

The 400 kV turn-in OHL project area is underlain by potentially fossiliferous continental sediments of the Adelaide and Tarkastad Subgroups (Beaufort Group. Karoo Supergroup) which are of latest Permian and earliest Triassic age, spanning a catastrophic mass extinction event. Provisional mapping using the DFFE Screening Tool suggests that much of the project area is of Very High palaeosensitivity.

A sparse scatter of fossil remains have been recorded here within the Beaufort Group bedrocks during a recent one-day site visit, as well as previous field-based palaeontological assessments of the Umsobomvu 1 WEF project area (Almond 2018b) and the Koruson Substation project area (Almond 2021b). They mainly comprise fragmentary reworked bones and teeth of small tetrapods preserved within well-developed, calcrete concretion-dominated, basal channel breccio-conglomerates or inside pedogenic concretions. Low diversity trace fossil assemblages are observed locally within sandstone and siltstone facies. The vertebrate fossils are sparsely distributed and for the most part taxonomically unidentifiable. The majority are poorly preserved due to intensive regional dolerite intrusion as well as near-surface weathering; hence these fossils are of modest palaeontological or conservation significance. Possible calcretized rhizoliths (plant root casts) of limited scientific interest are the only fossils observed within the Late Caenozoic superficial sediments. It is concluded that the 400 kV turn-in OHL project area is, in practice, of LOW palaeosensitivity overall and the palaeosensitivity mapping shown by the DFFE Screening Tool is accordingly contested here.

It is inferred that potential impacts on palaeontological heritage resources due to the proposed OHL infrastructure developments are likely to be of LOW to VERY LOW significance. Pending the discovery of significant new fossil finds within the project footprint before or during construction, no further specialist

palaeontological studies, monitoring or mitigation are recommended for these developments. Provided that the Chance Fossil Finds Protocol tabulated in Appendix 1 of the Paleontological Report is incorporated into the EMPr and fully implemented during the construction phase of the OHL developments, there are no objections on palaeontological heritage grounds to their authorisation.

### **7.5.2 IMPACTS**

None

### **7.5.3 MITIGATION MEASURES**

The Chance Fossil Finds Protocol tabulated in Appendix 1 of the Paleontological Report must be incorporated into the EMPr and fully implemented during the construction phase of the OHL development.



## 8 IMPACT ASSESSMENT

### 8.1 IMPACT ASSESSMENT METHODOLOGY

The following standard rating scales have been defined for assessing and quantifying the identified impacts. This is necessary since impacts have a number of parameters that need to be assessed. The identified impacts have been assessed against the following criteria:

Six factors are considered when assessing the significance of the identified issues, namely:

1. **Significance** - Each of the below criterion (points 2-6 below) are ranked with scores assigned, as presented in Table 1 to determine the overall significance of an activity. The total scores recorded for the effect (which includes scores for duration; extent; consequence and probability) and reversibility / mitigation are then read off the matrix presented in Table 8-1, to determine the overall significance of the issue. The overall significance is either negative or positive.
2. **Consequence** - the consequence scale is used in order to objectively evaluate how severe a number of negative impacts might be on the issue under consideration, or how beneficial a number of positive impacts might be on the issue under consideration.
3. **Extent** - the spatial scale defines the physical extent of the impact.
4. **Duration** - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.
5. The **probability** of the impact occurring - the likelihood of impacts taking place as a result of project actions arising from the various alternatives. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident) and may or may not result from the proposed development and alternatives. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.
6. **Reversibility / Mitigation** – The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories used are listed and explained in Table 8-1 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

The relationship of the issue to the temporal scale, spatial scale and the severity are combined to describe the overall importance rating, namely the significance of the assessed impact.

The impact is first classified as a positive (+) or negative (-) impact. The impact then undergoes an evaluation according to a set of criteria.

Table 8-1: Ranking of Evaluation Criteria.

Effect	Duration	
	Short term	Less than 5 years
	Medium term	Between 5-20 years
	Long term	More than 20 years
	Permanent	Over 40 years or resulting in a permanent and lasting loss
	Extent	
	Localised	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
	Study area	The proposed site and its immediate surroundings.
	Municipal	Impacts affect the Nelson Mandela Bay Metropolitan Municipality, or any towns within the municipality.
	Regional	Impacts affect the wider area or the Eastern Cape Province as a whole.
	National	Impacts affect the entire country.

	International/Global	Impacts affect other countries or have a global influence.
	<b>Consequence</b>	
	Slight	Slight impacts or benefits on the affected system(s) or party(ies)
	Moderate	Moderate impacts or benefits on the affected system(s) or party(ies)
	Severe/ Beneficial	Severe impacts or benefits on the affected system(s) or party(ies)
	<b>Probability</b>	
	Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
	Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
	Possible	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
	Unsure/Unlikely	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.
<b>Reversibility/ Mitigation</b>	<b>Impact Reversibility / Mitigation</b>	
	Easy	The impact can be easily, effectively and cost effectively mitigated/reversed
	Moderate	The impact can be effectively mitigated/reversed without much difficulty or cost
	Difficult	The impact could be mitigated/reversed but there will be some difficulty in ensuring effectiveness and/or implementation, and significant costs
	Very Difficult	The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly

**Table 8-2: Impacts Severity Rating**

<b>Impact severity</b> <i>(The severity of negative impacts, or how beneficial positive impacts would be on a affected system or affected party)</i>	
<b>Very severe</b>	<b>Very beneficial</b>
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.
<b>Severe</b>	<b>Beneficial</b>
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.
<b>Moderately severe</b>	<b>Moderately beneficial</b>
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing a sewage treatment facility where there was vegetation with a low conservation value.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.
<b>Slight</b>	<b>Slightly beneficial</b>
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.

<b>No effect</b>	<b>Don't know/Can't know</b>
The system(s) or party(ies) is not affected by the proposed development.	In certain cases it may not be possible to determine the severity of an impact.

**Table 8-3: Overall Significance Rating**

<b>OVERALL SIGNIFICANCE (THE COMBINATION OF ALL THE ABOVE CRITERIA AS AN OVERALL SIGNIFICANCE)</b>	
<b>VERY HIGH NEGATIVE</b>	<b>VERY BENEFICIAL (VERY HIGH +)</b>
<p>These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects. Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance. Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.</p>	
<b>HIGH NEGATIVE</b>	<b>BENEFICIAL (HIGH +)</b>
<p>These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated. Example: The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.</p>	
<b>MODERATE NEGATIVE</b>	<b>SOME BENEFITS (MODERATE +)</b>
<p>These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial. Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.</p>	
<b>LOW NEGATIVE</b>	<b>FEW BENEFITS (LOW +)</b>
<p>These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect. Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels. Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.</p>	
<b>NO SIGNIFICANCE</b>	
<p>There are no primary or secondary effects at all that are important to scientists or the public. Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.</p>	
<b>DON'T KNOW</b>	
<p>In certain cases it may not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information. Example: The effect of a development on people's psychological perspective of the environment.</p>	

All feasible alternatives and the “no-go option” will be equally assessed in order to evaluate the significance of the “as predicted” impacts (prior to mitigation) and the “residual” impacts (that remain after mitigation measures are taken into account). The reason(s) for the judgement will be provided when necessary.

All impacts must have a “cause and comment”, a significance rating before mitigation, after mitigation and for the no-go option. Impacts should also indicate applicable mitigation measure/ recommendations to reduce the impact significance.

### 8.1.1 CUMULATIVE IMPACT APPROACH

While individual development activities can have minor impacts, the combined impacts of many developments can have serious local, regional, and even global repercussions. In this regard, Appendix 3 section 3 on the EIA process included in the 2014 EIA Regulations as amended in 2017, indicates that an EIR must contain information that is necessary for the Competent Authority to consider and come to a decision on an application and must include:

(j) An assessment of each identified potentially significant impact and risk, including: (i) cumulative impacts.

The Regulations define cumulative impacts as follows: “cumulative impacts”, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

The International Finance Corporation (IFC) (2013:21) of the World Bank defines a Cumulative Effects Assessment (CEA) as the process of:

- Analysing the potential impacts and risks of proposed developments in the context of the potential effects of other human activities and natural environmental and social external drivers on the chosen [valued component] over time; and
- Proposing concrete measures to avoid, reduce, or mitigate such cumulative impacts and risks to the extent possible.

Ecological and socio-economic systems can absorb or adapt to change, but not indefinitely. The increased pace and intensity of development activities in many regions of the world, combined with increased concern for environmental protection, has elevated the importance of CEA and management in recent years. Governments, nongovernment organizations, and project proponents are seeking innovative ways to address cumulative effects arising from climate change, worsening air quality, freshwater shortages, deforestation, noise and light pollution, and wildlife habitat fragmentation.

Cumulative effects are typically the result of incremental changes to the environment caused by multiple human activities and natural processes. For example, wildlife habitat fragmentation has many possible causes such as road building, clearing native vegetation for land development, and water diversion projects. However, cumulative effects can also result from repetitive actions such as cyclical or episodic discharges of liquid waste or sewage into a water body or many wells tapping and depleting an aquifer. There are many different types of cumulative effects including additive, interactive, and synergistic, and they manifest in different ways whereby the ability of the environment to absorb or adapt to the effect is ultimately exceeded. Ideally, CEA leads to decisions that maintain environmental resiliency.

The purpose of a CEA process is to identify the relative contribution of a proposed activity to the total stresses on the affected environment and to determine whether that environment will be able to sustain the additional stress. To accomplish this, CEA methodology typically involves scoping, baseline studies and analysis of change trends, mitigation, significance determination and adaptive follow-up including monitoring.

The properties affected by the Umsobomvu 400kV OHL are zoned as agriculture. The current land-use includes agriculture in the form of livestock grazing and a small section of cultivated crops which are used to feed livestock during the dry winter months. The properties are also part of the Umsobomvu and Coleskop WEFs. Surrounding land-uses include game farms (photographic and hunting safaris), roads, open space / natural areas, and agricultural land.

Other existing or proposed wind farms in the area include:

- An existing operational wind energy facility:
  - Noupoot WEF
- Proposed wind energy facilities:
  - Coleskop WEF (awarded preferred bidder status in REIPPPP Round 5)
  - Umsobomvu WEF

The cumulative impact of the proposed OHL, considering the operational and proposed WEFs in the area is MODERATE. The OHL is situated within the Umsobomvu and Coleskop properties and will be required to connect the WEFs and other proposed renewable energy facilities in the area to the National Eskom Grid. The Umsobomvu 400kV OHL is also proposed adjacent to the authorised (in the process of construction) Koruson Substation. This means that the proposed OHL is adjacent to (soon-to-be) existing industrial infrastructure.

### **8.1.2 NO-GO ALTERNATIVE IMPACT APPROACH**

It is mandatory to consider the “no-go” option in the EIA process. The “no-go” alternative refers to the current status quo and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable (e.g. an existing contaminated site earmarked for a development). The no-go is the continuation of the existing land use, i.e. maintain the status quo.

The status quo for the proposed OHL site would include the following:

#### **IMMEDIATE AREA OF THE PROPOSED WEF:**

- Livestock grazing (proposed OHL would have a negligible impact);
- Ecological processes (proposed OHL would have a negative impact)

#### **ADJACENT AREA OF THE PROPOSED WEF:**

- Job creation (proposed OHL would have a positive and a negative impact);
- Electricity stabilization (proposed OHL would have a positive impact);

## **8.2 GENERAL IMPACTS**

Table 8-4 contains the general impacts associated with the proposed Umsobomvu 400kV OHL. This table includes direct/indirect impacts, cumulative impacts and no-go alternatives for each impact identified. This table includes the issues, impacts, nature, pre-mitigation significance and post-mitigation significance. The full assessment of each impact as per Tables 8-4 and 8-5 above can be found in Appendix E of this Report. These tables contain full mitigation measures and include duration, extent, consequence, probability, reversibility of each impact. For the summary related to Specialist Impacts, please see Section 8.3.



Table 8-4: General Impacts Identified and Assessed. Full Impacts Tables can be found in Appendix C of this Report.

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
PLANNING & DESIGN PHASE					
GENERAL IMPACTS					
TRAFFIC & TRANSPORT	Inadequate planning for the transportation of pylon parts and specialist construction equipment to the site by long and/or slow-moving vehicles could cause traffic congestion, especially if temporary road closures are required.  <i>Cumulative impact would be high should the moving of pylons coincide with the moving of turbine parts for Umsobomvu WEF and Coleskop WEF.</i> <i>No-go alternative would result in no impact related to transport of OHL parts.</i>	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>Project planning must include a plan for traffic control that will be implemented, especially during the construction phase of the development. Consultation with the local Road Traffic Unit in this regard must be done early in the planning phase. The necessary road traffic permits must be obtained for transporting parts, containers, materials and construction equipment to the site.</li></ul>	LOW -
		CUMULATIVE	HIGH -		LOW -
		NO-GO	NO IMPACT		
	The integrity of existing highway infrastructure such as bridges and barriers may be compromised by the heavy vehicle traffic delivering components to the site.  <i>Cumulative impact would be moderate should the surrounding WEFs use the same route as the OHL infrastructure.</i> <i>No-go alternative would result in no impact related to transport of OHL parts.</i>	DIRECT	LOW -	<ul style="list-style-type: none"><li>Careful planning of the routes taken by heavy vehicles must highlight areas of road that may need to be upgraded in order to accommodate these vehicles. Once identified, these areas must be upgraded if necessary.</li></ul>	LOW -
		CUMULATIVE	MODERATE -		LOW -
		NO-GO	NO IMPACT		
ENVIRONMENTAL LEGAL AND POLICY COMPLIANCE	Failure to adhere to existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, guidelines and legislation. This could result in lack of institutional support for the project, overall project failure and undue disturbance to the natural environment.	DIRECT	HIGH -	<ul style="list-style-type: none"><li>Ensure that all relevant legislation and policy is consulted and further ensure that the project is compliant with such legislation and policy.</li><li>These must include (but not restricted to):<ul style="list-style-type: none"><li>Local and District Spatial Development Frameworks</li></ul></li></ul>	LOW -
		CUMULATIVE	HIGH -		LOW -

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>Cumulative impact would be high as there are a range of activities in the region which are already not compliant in terms of environmental policy and law.</i></p> <p><i>No-go alternative could result in landowners looking at other avenues of potential income which would need to comply with environmental law and policy.</i></p>	NO-GO	LOW -	<ul style="list-style-type: none"><li>○ Local Municipal bylaws</li><li>▪ In addition, planning for the construction and operation of the proposed OHL must consider available best practice guidelines.</li></ul>	LOW -
STORMWATER MANAGEMENT AND EROSION	<p>The introduction of impermeable areas could increase rates of run-off and therefore the risk of localised flooding.</p>	INDIRECT	MODERATE -	<ul style="list-style-type: none"><li>▪ Structures must be located at least 32m away from identified drainage lines.</li><li>▪ A Stormwater Management Plan must be designed and implemented to ensure maximum water seepage at the source of water flow.</li><li>▪ The plan must also include management mitigation measures for water pollution, wastewater management and the management of surface erosion e.g. by considering the applicability of contouring, etc.</li></ul>	LOW -
	<p><i>Cumulative impact would be moderate as there are a range of activities, including roads, which contribute to erosion at localised levels. However, these activities are not prevalent in the area.</i></p>	CUMULATIVE	MODERATE -		LOW -
	<p><i>No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and existing impermeable surfaces.</i></p>	NO-GO	LOW -		LOW -
MANAGEMENT OF GENERAL WASTE	<p>Inappropriate planning for management and disposal of waste e.g. storage disposal could result in surface and ground water contamination.</p>	DIRECT	HIGH -	<ul style="list-style-type: none"><li>▪ Develop and implement a waste management plan for handling on site waste.</li><li>▪ Designate an appropriate area where waste can be stored before disposal.</li><li>▪ General Waste must be disposed of at a registered landfill site.</li></ul>	LOW -
	<p><i>Cumulative impact, on a localised scale, would be low as it is a rural area. The impacts of the surrounding WEFs would be moderate, but it is assumed that these impacts would be mitigated to an acceptable level.</i></p>	CUMULATIVE	HIGH -		LOW -
	<p><i>No-go alternative would result in no impact related to general waste.</i></p>	NO-GO	NO IMPACT		
CONSTRUCTION PHASE					

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
GENERAL IMPACTS					
NUISANCE DUST	Dust is likely to be a potential nuisance due to the construction activities.  <i>Cumulative impact would be moderate should the surrounding proposed WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL. Improper management of a neighbouring site would exacerbate the impact.</i> <i>No-go alternative would result in no impact related to construction nuisance dust as no other construction, that we are aware of, is planned on site.</i>	DIRECT	LOW -	<ul style="list-style-type: none"><li>Fugitive/nuisance dust must be reduced by implementing one of or a combination of the following:<ul style="list-style-type: none"><li>Damping down of un-surfaced and un-vegetated areas;</li><li>Retention of vegetation where possible;</li><li>Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas;</li><li>A speed limit of 40km/h must not be exceeded on dirt roads;</li></ul></li><li>Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor.</li></ul>	LOW -
		CUMULATIVE	MODERATE -		LOW -
		NO-GO	NO IMPACT		
		FIRE	Risk of runaway fires from construction activities related to having people on site, such as cooking, smoking or burning of vegetation might lead to the burning of surrounding vegetation.  <i>Cumulative impact would be high should the surrounding proposed WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL. Improper management of a neighbouring site would exacerbate the impact.</i> <i>No-go alternative would still retain a fire risk as fires are a natural occurrence.</i>	DIRECT	HIGH -
CUMULATIVE	HIGH -	MODERATE -			
NO-GO	HIGH -	MODERATE -			
STORMWATER MANAGEMENT	Sediment is likely to be created during construction. This could be washed off into the nearby drainage line e.g. during the excavation of foundations.	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>The recommendations of the stormwater management plan must be implemented to avoid soil erosion and siltation of drainage line.</li></ul>	LOW -

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>Cumulative impact would be moderate as there are a range of infrastructure components which are being constructed as part of the surrounding renewable energy facilities.</i> <i>No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and existing impermeable surfaces.</i>	CUMULATIVE	MODERATE -		LOW -
		NO-GO	LOW -		LOW -
DEGRADATION OF DRAINAGE LINES FROM EARTHWORKS	Unplanned construction activities or earthworks that occur close to onsite drainage lines could cause adverse impacts such as soil erosion, siltation, and blockage of the drainage line.	DIRECT	HIGH -	▪ <i>There must be no earthworks within 32m of the drainage lines to avoid contamination of water sources.</i>	LOW -
	<i>Cumulative impact would be moderate as there are a range of infrastructure components which are being constructed as part of the surrounding renewable energy facilities which could contribute to the degradation of drainage lines at localised levels if not properly managed during construction.</i> <i>No-go alternative would have no impact as there are currently no earthworks activities on site that we are aware of.</i>	CUMULATIVE	HIGH -		LOW -
			NO-GO	NO IMPACT	
MANAGEMENT OF GENERAL WASTE	Littering by construction workers could cause surface and ground water pollution.	INDIRECT	MODERATE -	▪ <i>A waste management plan incorporating recycling and waste minimisation must be implemented. The Waste Management Plan must be explained to all employees as part of the environmental induction training.</i>	LOW -
	<i>Cumulative impact would be moderate as there are a range of infrastructure components which are being constructed as part of the surrounding renewable energy facilities. .</i> <i>No-go alternative would result in no impact related to general waste as the site does not currently experience issues regarding waste.</i>	CUMULATIVE	MODERATE -		LOW -
			NO-GO	NO IMPACT	

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
MANAGEMENT OF CONSTRUCTION WASTE	Waste from construction activities e.g. excess concrete and cement mixture, empty paint containers, oil containers, etc., could cause pollution of ground and surface water when they come into contact with run-off water.  <i>Cumulative impact, on a localised scale, would be moderate should the surrounding WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL.</i> <i>No-go alternative would result in no impact related to construction waste as the site does not currently have any construction activities taking place.</i>	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>A waste management plan for the project must be developed and implemented in the construction phase.</li><li>All waste must be disposed of at an appropriately licensed landfill site.</li><li>All construction materials must be stored in a central and secure location with controlled access with an appropriate impermeable surface.</li><li>The recommendations of the Stormwater Management Plan must be implemented to mitigate the impacts of run-off water on pollution.</li></ul>	LOW -
		CUMULATIVE	MODERATE -		LOW -
		NO-GO	NO IMPACT		
	WATER QUALITY	Wet concrete is highly alkaline. This could result in flash kills of macroinvertebrates and fish species in the vicinity. Soil erosion will decrease the quality of the aquatic habitat downstream of the construction activities by silting over exposed rocks and decreasing the clarity and oxygen saturation of the water. Soil erosion will decrease the quality of the aquatic habitat downstream of the construction activities by silting over exposed rocks and decreasing the clarity and oxygen saturation of the water.  <i>Cumulative impact, on a localised scale, would be moderate should the surrounding WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL and should there be improper management of concrete bunding and mixing.</i> <i>No-go alternative would result in no impact related to concrete contamination of</i>	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>No concrete mixing will take place within 32m of any watercourse.</li><li>The concrete batching plant must be clearly demarcated, and no sprawl must be tolerated.</li></ul>
CUMULATIVE			MODERATE -		LOW -
NO-GO			NO IMPACT		



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>watercourses as the site does not currently have any construction activities taking place.</i>				
INFILLING/ EXCAVATION IN A WATERCOURSE	Excavated material stockpiles may increase sediment loads in watercourses during rainfall events. Materials used for the infilling of watercourses in order to construct water crossings may not be compatible with the surrounding bed/banks, etc., which could change the characteristics of the watercourse.	INDIRECT	LOW -	<ul style="list-style-type: none"><li>Stockpiled excavated material must not be stored within 32m of a watercourse.</li><li>Stockpile areas must be suitably bunded to prevent Waterborne erosion of exposed soils where there is a likelihood that the soils will be washed into a watercourse.</li></ul>	LOW -
	<i>Cumulative impact, on a localised scale, would be low should the surrounding WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL and should there be improper management infilling of materials into watercourses.</i> <i>No-go alternative would result in no impact related to excavated stockpiles as the site does not currently have any construction activities taking place.</i>	CUMULATIVE	LOW -	<ul style="list-style-type: none"><li>Materials used for infilling must be suitably stabilized to ensure that scour and erosion of the existing bed/banks is exacerbated.</li></ul>	LOW -
		NO-GO	NO IMPACT		
DISPOSAL OF SPOIL MATERIAL	Incorrect disposal of subsoil/spoil material could result in significant loss of a useful resource.	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>Subsoil cannot be disposed of onsite without the appropriate Waste License in terms of the NEMA: Waste Act.</li><li>Spoil could be used to rehabilitate open borrow pits or erosion features.</li></ul>	LOW -
	<i>Cumulative impact, on a localised scale, would be low should the surrounding WEFs start construction at the same time as the proposed Umsobomvu 400kV OHL and should there be improper management of topsoil.</i> <i>No-go alternative would result in no impact related to disposal of spoil materials as the site does not currently have any construction activities taking place.</i>	CUMULATIVE	MODERATE -	<ul style="list-style-type: none"><li>Disposal of spoil material to a registered landfill must be the last option.</li><li>No spoil stockpiles will be allowed to remain onsite once construction activities have ceased.</li></ul>	LOW -
		NO-GO	NO IMPACT		
OPERATIONAL PHASE					
GENERAL IMPACTS					

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
INCREASED STORMWATER RUN-OFF	Failure to maintain the storm water system could increase the risk of surface water damage to the landscape and vegetation from increased rates of run-off and therefore the risk of localised flooding and increased sheet erosion downstream due to the presence of roads and impermeable areas of hard standing.  <i>Cumulative impact would be moderate as there are a range of activities, including roads, turbines, etc. planned as part of the surrounding WEFs which could contribute to erosion at localised levels. However, these activities are not prevalent in the area. No-go alternative would still present a level of stormwater runoff and erosion due to current farming.</i>	DIRECT	MODERATE -	▪ Recommendations of the Stormwater Management Plan must be implemented.	LOW -
		CUMULATIVE	MODERATE -		LOW -
		NO-GO	LOW -		LOW -
DECOMMISSIONING PHASE					
GENERAL IMPACTS					
The proposed Umsobomvu 400kV OHL would not have a planned decommissioning phase and will become part of Eskom’s National Grid Infrastructure.					

## 8.3 SPECIALIST IMPACTS

Table 8-5 contains the specialist impacts associated with the proposed Umsobomvu 400kV OHL. This table includes direct/indirect impacts, cumulative impacts and no-go alternatives for each impact identified. This table includes the issues, impacts, nature, pre-mitigation significance and post-mitigation significance. The full assessment of each impact as per Table 8-4 above can be found in Appendix E of this Report and in each individual Specialist Report, Appendix F. These tables contain full mitigation measures and include duration, extent, consequence, probability, reversibility of each impact. For the summary related to General Impacts, please see Section 8-2.

Table 8-5: Specialist Impacts Identified and Assessed. Full Impacts Tables can be found in Appendix C of this Report. Specialist Reports can be found in Appendix D of this Report

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>PLANNING &amp; DESIGN PHASE</b>					
<i>It is important to note that specialist planning and design phase impacts were not expected since the developer designed the layout presented in both the Scoping and EIR based on sensitivity data and constraints available from the specialist studies from both this assessment, as well as the Umsobomvu and Coleskop WEFs. The planning and design impacts were therefore mitigated at Scoping Phase.</i>					
AGRICULTURE IMPACT ASSESSMENT					
None identified by specialist					
AVIFAUNAL IMPACT ASSESSMENT					
None identified by specialist					
ECOLOGICAL IMPACT ASSESSMENT					
None identified by specialist					
HERITAGE IMPACT ASSESSMENT					
None identified by specialist					
PALAENTOLOGICAL IMPACT ASSESSMENT					
None identified by specialist					
<b>CONSTRUCTION PHASE</b>					
AGRICULTURE IMPACT ASSESSMENT					
LOSS OF AGRICULTURAL LAND	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: <ul style="list-style-type: none"> <li>Conservation of Agricultural Resources Act No 43 of 1983;</li> </ul>	DIRECT	NONE	<ul style="list-style-type: none"> <li>Security during construction. <ul style="list-style-type: none"> <li>Mend camp fences when they are breached in order to protect livestock.</li> <li>Join existing community policing forums and/or similar community structures.</li> <li>Dust can be problematic and suppression is necessary. This can be done by spraying with water.</li> <li>Make the contact details of the main contractors available to surrounding landowners and attend to any matters expediently.</li> </ul> </li> <li>Hazardous substances should be safely</li> </ul>	NONE
		CUMULATIVE			
		NO-GO			
LOSS OF CULTIVATED LAND	<ul style="list-style-type: none"> <li>Preservation and Development of Agricultural Land Framework Bill, 2014;</li> <li>National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006;</li> </ul>	DIRECT	NONE		NONE

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<ul style="list-style-type: none"><li>Land use Management Bill, 2008; This impact is assessed with this in mind.</li><li>No cultivated land will be lost</li></ul>	CUMULATIVE		disposed of or stored to minimise any impact on animals and water resources.	
		NO-GO			
LOSS OF GRAZING LAND	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: <ul style="list-style-type: none"><li>Conservation of Agricultural Resources Act No 43 of 1983;</li><li>Preservation and Development of Agricultural Land Framework Bill, 2014;</li><li>National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006;</li><li>Land use Management Bill, 2008;</li></ul> This impact is assessed with this in mind. <ul style="list-style-type: none"><li>The loss of grazing land is minor (placement of pylons only).</li></ul>	DIRECT	LOW -		LOW -
		CUMULATIVE	LOW -	LOW -	
		NO-GO	NO IMPACT		
AVIFAUNAL IMPACT ASSESSMENT					
DESTRUCTION OF BIRD HABITAT DURING CONSTRUCTION OF OHL	The impact of habitat destruction will be of Low negative significance. The amount of habitat to be transformed for the power line is relatively small in this landscape and the habitat is not particularly unique or limited in availability. However destruction of habitat cannot be reversed and there is a cumulative impact of multiple projects on the habitat in the broader area. We recommend several mitigation measures which will slightly reduce the impact significance, but these will not entirely reduce the significance since a certain	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>The sensitivity map in the Avifaunal Report must be adhered to.</li><li>All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li><li>All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.</li><li>The construction servitude road should ideally not be scraped open as this will increase habitat destruction.</li></ul>	LOW -
		CUMULATIVE	HIGH -		HIGH -



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	amount of habitat destruction is inevitable. The cumulative impact of renewable energy and power lines on habitat in the area is High in our view. The proposed power line makes up a relatively small proportion of this overall cumulative impact.	NO-GO	LOW -	<ul style="list-style-type: none"><li>No mitigation possible</li></ul>	LOW -
DISTURBANCE OF BIRDS DURING THE CONSTRUCTION OF THE OHL	We judge the significance of this impact to be Low negative significance. Disturbance of birds typically reaches significant levels when the receptor is a breeding site for a sensitive species, or some other important feature, such as a roost. We have identified one Verreaux’s Eagle nest in the vicinity of the project, but there is no reason for the project to impact on these eagles provided that the access road past the nest is not used during construction. The cumulative impact of renewable energy and power lines on avifauna in the area through disturbance is High in our view. The proposed power line makes up a relatively small proportion of this overall cumulative impact.	DIRECT	LOW -	<ul style="list-style-type: none"><li>The sensitivity map of the Avifaunal Report must be adhered to.</li><li>The road past the Verreaux’s Eagle nest should not be used for construction access</li><li>All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li><li>All temporary disturbed areas should be rehabilitated according to the site’s rehabilitation plan, following construction.</li></ul>	LOW -
		CUMULATIVE	HIGH -		HIGH -
		NO-GO	LOW -		LOW -
		NO-GO	NO IMPACT		
ECOLOGICAL IMPACT ASSESSMENT					
LOSS OF NATURAL VEGETATION DUE TO VEGETATION CLEARING	The clearing of land for the construction of the proposed Umsobomvu 400 kV LILO OHL will result in the direct loss of approximately 10-15m² per pylon within the Eastern Upper Karoo vegetation and 10-15m² per pylon within the Besemkaree Koppies Shrubland. Given the small footprint of the proposed development which has been placed within the authorised footprint of the Umsobomvu and Coleskop Wind Energy Facilities (WEFs), as well as the extent of remaining intact	DIRECT	LOW -	<ul style="list-style-type: none"><li>The clearance of vegetation at any given time should be kept to a minimum and vegetation clearance must be strictly limited to the development footprint (pylons).</li><li>Employees must be prohibited from making fires and harvesting plants.</li><li>As far as practically possible, existing access roads should be utilised.</li><li>The development footprint/construction area must be demarcated to prevent encroachment of construction activities into</li></ul>	LOW -

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>Eastern Upper Karoo vegetation and Besemkaree Koppies Shrubland outside of and surrounding the project area, it is unlikely that the loss of vegetation associated with the proposed development will impact on the extent and long-term conservation of these vegetation types, which is classified as Least Threatened.</p> <p>The overall significance of the loss of natural vegetation due to vegetation clearing for the construction of the pylons, provided the recommended mitigation measures are implemented, is classified as low negative.</p> <p><b>Cumulative Impact</b>  <i>Minor portions of these vegetation types have already been lost mainly due to agriculture, grazing by livestock, and the construction of roads. However, the footprint of the proposed development is relatively small compared to the approved authorised WEFs. The additional (cumulative) loss of vegetation as a consequence of the construction of the proposed Umsobomvu 400 kV LILO OHL is therefore classified as low negative.</i></p> <p><b>No-Go Alternative</b>  <i>The site forms part of the authorised Umsobomvu and Coleskop WEFs. If the proposed development is not approved, vegetation will still be lost due to the construction of the approved WEFs and the current land use impacts such as grazing will</i></p>	<b>CUMULATIVE</b>	<b>LOW -</b>	<p>surrounding areas.</p> <ul style="list-style-type: none"> <li>Ensure that roads on slopes incorporate storm water diversion.</li> <li>Where possible, reserve and store natural vegetation for re-vegetation post-construction.</li> <li>Only indigenous plant species must be used for rehabilitation purposes.</li> <li>Topsoil must be carefully removed and used to rehabilitate the site.</li> </ul>	<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>No mitigation possible.</li> </ul>	<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>continue. The No-go Alternative is therefore classified as low negative.</i>				
<b>LOSS OF PLANT SPECIES OF CONSERVATION CONCERN</b>	<p>The clearance of vegetation for the construction of the proposed development could result in the loss of plant Species of Conservation Concern (SCC). However, it should be noted that no threatened SCC have been recorded or are likely to occur within the project area (refer to Section 3.4.3.). Additionally, the development footprint of the proposed development is relatively small and vegetation clearance will be limited to that which is necessary for the construction of the pylons.</p> <p><b>Cumulative Impact</b>  <i>SCC have likely already been lost as a result of the existing developments within and surrounding the broader area. As such, the loss of SCC associated with the proposed development will likely contribute to the cumulative loss of non-threatened SCC within the region. However, it should be noted that the development footprint of the proposed development is relatively small. As such, the significance of the cumulative loss of SCC is classified as low negative.</i></p> <p><b>No-Go Alternative</b>  <i>The No-go alternative will not require the clearance of vegetation and will therefore not result in the additional loss of plant SCC. However, it should be noted that the site forms part of the authorised Umsobomvu and Coleskop WEFs. If the proposed</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>A Search and Rescue Operation should be undertaken for protected plant species. In the unlikely event that a population of endangered SCC are found, infrastructure should be shifted to avoid these. Where this is not possible, SCC that are known to survive translocation, must be translocated to the nearest available habitat on the same property.</li> <li>If the translocation or removal of SCC is required, a permit must be obtained from the relevant issuing authority.</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>development is not approved, SCC could be lost due to the construction of the WEFS and the current land use impacts such as grazing will continue. The No-go Alternative is therefore classified as low negative</i>	<b>NO-GO</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>No mitigation possible.</li> </ul>	<b>LOW -</b>
<b>DISTURBANCE OF FAUNAL SPECIES AND LOSS OF FAUNAL HABITAT</b>	<p>During the construction phase, vegetation clearance and associated construction activities (including noise and vehicular movement) could result in the mortality or disturbance of faunal species and the subsequent movement of species out of the area. Additionally, the loss of vegetation coincides with the loss of faunal habitat, which could impact on the feeding, breeding and rearing locales of faunal species within the project area during construction. Other mammal SCC are likely to move away from the areas during construction.</p> <p><b>Cumulative Impact</b>  <i>The addition of the proposed development will exacerbate the impact on faunal species caused by existing developments and</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>A Faunal Search and Rescue must be undertaken directly prior to vegetation clearance.</li> <li>The appointed ECO must be trained in snake removal techniques</li> <li>ECO to walk ahead of clearing construction machinery and move slow moving species e.g. tortoises and cryptic species out of harm's way and into suitable neighbouring habitat.</li> <li>Any faunal species that may die as a result of construction must be recorded (photographed, GPS coordinates) and if somewhat intact, preserved and donated to SANBI.</li> <li>Any faunal species observed onsite must be recorded (photographed, GPS coordinates) and loaded onto iNaturalist.</li> <li>Staff and contractors are not permitted to</li> </ul>	<b>MODERATE -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>activities (including the traffic, farming, amongst others). However, it should be noted that the footprint of the proposed development is relatively small. Therefore, the cumulative impact is classified as moderate negative.</p> <p><b>No-Go Alternative</b>  <i>The No-go alternative will not require the clearance of vegetation and will therefore not result in the additional disturbance of faunal species and habitat. However, it should be noted that the site forms part of the authorised Umsobomvu and Coleskop WEFs. If the proposed development is not approved, faunal species are still likely to be disturbed due to the construction of the WEFs. As such, the no-go alternative is classified as moderate negative.</i></p>	CUMULATIVE	MODERATE -	<p>capture, collect or eat any faunal species onsite.</p> <ul style="list-style-type: none"> <li>It is illegal to remove or kill all frogs, toads, tortoises, lizards, chameleons and snakes within the proposed project area that are listed as either Schedule I or II on the NCNCA List unless the relevant permit is acquired. It is recommended that construction staff are educated with regards to herpetofauna conservation and that all staff employed by the developer ensure that any herpetofauna encountered are not harmed or killed.</li> <li>Amphibians and/or reptiles encountered must be allowed to move away from the construction area and a permit is required to remove or relocate these species. Amphibians must be released in the same catchment areas while reptiles must be relocated to directly adjacent areas of the proposed development.</li> <li>Speed restrictions (40 km per hour is recommended) must be implemented to reduce the chance of road kills, as well as to reduce the amount of dust caused by vehicle movement along the roads.</li> <li>All reasonable and feasible measures should be implemented to reduce noise in ecologically sensitive areas.</li> </ul>	MODERATE -
		NO-GO	MODERATE -	No mitigation possible.	MODERATE -
WILDLIFE POACHING	<p>During the construction phase, the increase in individuals accessing the project area for the proposed development could result in an increase in wildlife poaching (particularly of reptile species).</p> <p>Cumulative Impact</p>	DIRECT	MODERATE -	<ul style="list-style-type: none"> <li>All individuals should sign a register prior to accessing the construction site, including construction workers.</li> </ul>	LOW -
		CUMULATIVE	MODERATE -	<ul style="list-style-type: none"> <li>Construction workers must not be housed onsite.</li> <li>No animal shall be killed or injured as a result of the construction of the proposed</li> </ul>	LOW -



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>Wildlife poaching, particularly of reptile species, is a serious problem in the Northern Cape Province. Should the increase in individuals associated with the construction of the proposed development lead to the increase in wildlife poaching, this will exacerbate the loss of faunal species within the broader project area.</i></p> <p><b>No-Go Alternative</b>  <i>The no-go alternative has been classified as Low Negative as wildlife poaching has been identified as an existing impact in the project area.</i></p>			<p><i>development and presence of construction staff.</i></p> <ul style="list-style-type: none"> <li><i>The appointed ECO should inquire and undertake an overview inspection of the site for the evidence of snares during the construction phase.</i></li> <li><i>No hunting, baiting or trapping shall be allowed within the affected properties or surrounding properties by construction staff.</i></li> </ul>	
		<b>NO-GO</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li><i>No mitigation possible.</i></li> </ul>	<b>LOW -</b>
<b>DISTURBANCE OF SENSITIVE AREAS</b>	<p>During the construction phase, negligent construction activities within the 100 m regulatory buffer of a drainage line (non-perennial river) could cause the erosion, sedimentation, or subsequent degradation of nearby water courses and the associated riparian vegetation.</p> <p><b>Cumulative Impact</b>  <i>Disturbance of sensitive areas such as water courses has already occurred within the broader project area due to the construction of roads, agricultural practises which have caused erosion and degradation of water courses (including drainage lines) and riparian vegetation, amongst other. Therefore, should the proposed development lead to the further disturbance of sensitive areas such as water courses, this could impact the characteristics of the greater catchment area. As such, the cumulative</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li><i>It is recommended that the construction area is demarcated and fenced off to prevent the encroach of construction activities into nearby sensitive areas.</i></li> <li><i>Stormwater must be managed in accordance with the recommendations outlined in the EMPr to ensure that runoff does not enter nearby surrounding water courses or drainage lines.</i></li> <li><i>All erosion control mechanisms should be regularly maintained. The appointed ECO must conduct regular checks for signs of erosion.</i></li> <li><i>Re-vegetation of disturbed surfaces must occur immediately after the construction activities have been completed.</i></li> <li><i>The necessary Water Use Authorisations must be obtained prior to the commencement of construction.</i></li> </ul>	<b>LOW -</b>
		<b>INDIRECT</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li><i>No mitigation possible.</i></li> </ul>	<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>impact associated therewith has been classified as moderate.</i></p> <p><b>No-Go Alternative</b></p> <p><i>Disturbance of sensitive areas such as water courses has already occurred within the broader project area due to the construction of roads, agricultural practises which have caused erosion and degradation of water courses (including drainage lines) and riparian vegetation, amongst other. Therefore, the no-go alternative has been classified as moderate.</i></p> <p><i>Fauna vary in the degree to which they can tolerate such disturbances and the increase in noise and dust could potentially have adverse impacts on various faunal groups. Increased noise and motor vibrations in wetland areas could also impact amphibian breeding choruses, but these impacts will be localised and many amphibian species are surprisingly tolerant of vehicle noise. Noise pollution will occur during all phases of development (construction, operational, and de-commissioning/ closure).</i></p>				

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>ESTABLISHMENT OF ALIEN PLANT SPECIES</b>	<p>The removal of existing natural vegetation creates 'open' habitats which favours the establishment of undesirable vegetation in areas that are typically very difficult to eradicate which could pose a threat to surrounding ecosystems. Failure to successfully rehabilitate land to its natural state will exacerbate this impact.</p> <p><b>Cumulative Impact</b>  <i>Scattered alien invasive species have already established in the broader area surrounding the proposed development footprint. Therefore, should the proposed development lead to the further establishment of alien invasive species in the project area, the invasion by alien species could be exacerbated. Considering the relatively small footprint of the proposed development, the cumulative impact associated therewith has been classified as low.</i></p> <p><b>No-Go Alternative</b>  <i>There is already evidence of scattered alien invasive species in the broader area surrounding the proposed development footprint. Under the no-go alternative these species are likely to continue multiplying if left unchecked. The current no-go alternative is thus low negative.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>The site must be checked regularly for the presence of alien invasive species.</li> <li>The alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to.</li> <li>The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.</li> <li>Any alien seedlings which establish within the construction area must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>No mitigation possible.</li> </ul>	<b>LOW -</b>
		<b>HERITAGE IMPACT ASSESSMENT</b>			
<b>DESTRUCTION OF HERITAGE ARTIFACTS</b>	A Heritage survey was undertaken for the proposed Umsobomvu 400kV LILO OHL. Much of the area is on an area with alluvial	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>On-site monitoring during excavations may be required at the pylons. A permit will be required to damage historical middens.</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	deposits. Within these deposits is a variety of stone tools dating back to the Early, Middle and Late Stone Ages. These tools are all in a secondary context and have little scientific value. The Colonial Period is represented by the Farm Wolvekloof and Rietpoort, although only parts of Wolvekloof will be affected. The transmission line avoids all the buildings but it might affect subsurface features and middens. It is for this reason I suggested that they pylons be placed on the edges of the farmstead, and dam wall/quarry, to minimised possible disturbance.			<ul style="list-style-type: none"><li>A potential grave was noted near the transmission line. This will require buffers at 5m and 20m from the grave. The grave remains a grave until proven otherwise.</li></ul>	
		NO-GO	NO IMPACT		
PALAENTOLOGICAL IMPACT ASSESSMENT					
DESTRUCTION OF PALAEONTOLOGY RESOURCES	It is inferred that potential impacts on palaeontological heritage resources due to the proposed OHL infrastructure developments are likely to be of LOW to VERY LOW significance. Pending the discovery of significant new fossil finds within the project footprint before or during construction, no further specialist palaeontological studies, monitoring or mitigation are recommended for these developments. Provided that the Chance Fossil Finds Protocol tabulated in Appendix 1 of the Paleontological Report is incorporated into the EMPr and fully implemented during the construction phase of the OHL developments, there are no objections on palaeontological heritage grounds to their authorisation.	DIRECT	LOW -	<ul style="list-style-type: none"><li>Provided that the Chance Fossil Finds Protocol tabulated in Appendix 1 of the Paleontological Report is incorporated into the EMPr and fully implemented during the construction phase of the OHL developments, there are no objections on palaeontological heritage grounds to their authorisation.</li></ul>	LOW -
		CUMULATIVE	LOW -		LOW -
				NO-GO	NO IMPACT
OPERATIONAL PHASE					
AGRICULTURE IMPACT ASSESSMENT					

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
None identified by specialist					
AVIFAUNAL IMPACT ASSESSMENT					
COLLISION OF BIRDS WITH OVERHEAD CABLES DURING OPERATIONS OF THE OHL	Using the formal methodology supplied by CES we judge the significance of this impact to be Moderate negative significance pre-mitigation. Mitigation will reduce this to Low negative significance. Several regionally Red Listed bird species which are known to be susceptible to collision with overhead power lines occur in the study area, including Ludwig’s Bustard, Kori Bustard, Blue Crane and Karoo Korhaan. The cumulative impact of power lines on birds through collision is High in this area. The proposed project makes a Moderate contribution to this overall impact.	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>The overhead cables (specifically the earth wires) should be fitted with an approved anti bird collision line marking device to make cables more visible to birds in flight and reduce the likelihood of collisions. This should be done according to the Eskom Transmission standards in terms of device spacing and other factors. Literature around the world points towards a 50-60% reduction in bird collision risk if the line is marked (Jenkins, Smallie &amp; Diamond, 2010; Shaw et al, 2021). The line marking device should be a dynamic (moving – bird flapper type) device.</li><li>The new power line should be patrolled during operation by Eskom annually to measure any impacts on birds (through detecting collision fatalities) and to monitor the durability of the line marking devices.</li><li>Where multiple devices on a span have failed (broken off or become stuck and non-dynamic due to wind) they should be replaced immediately.</li><li>Any recorded bird fatality data should be submitted to the Eskom –EWT Strategic Partnership where it will be curated and publicly accessible. .</li></ul>	LOW -
		CUMULATIVE	HIGH -		MODERATE -
		NO-GO	NO IMPACT		
ELECTROCUTION OF BIRDS ON PYLONS DURING OPERATIONS OF THE OHL	The significance of bird electrocution on the proposed power lines will be of Moderate negative significance pre-mitigation. Mitigation can reduce this to Negligible negative significance. Large eagles occur in the area, and with the absence of suitable	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>The pylon structure to be used provides sufficient clearance between phase and phase and phase and earth to mitigate against the risk of bird electrocution.</li><li>It is also essential that if any of the pylon structures are changed, we are given</li></ul>	LOW -
		CUMULATIVE	HIGH -		MODERATE -



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	large trees to perch on, these birds will certainly perch on the new pylons. The cumulative impact of power lines on birds through electrocution is High in this area.			opportunity to assess the electrocution risk of the new structure and design mitigation.	
		NO-GO	NO IMPACT		
ECOLOGICAL IMPACT ASSESSMENT					
ESTABLISHMENT OF ALIEN PLANT SPECIES	During the operational phase, failure to remove and manage alien vegetation during construction could result in the permanent establishment of alien vegetation in the study area. Failure to successfully rehabilitate land to its natural state will exacerbate this impact and lead to the permanent degradation of ecosystems as well as allow invasion by alien plant species.  Cumulative Impact <i>Scattered alien invasive species have already established in the broader area surrounding the proposed development footprint. Therefore, should the proposed development lead to the further establishment of alien invasive species in the project area, the invasion of alien species could be exacerbated. Considering the relatively small footprint of the proposed development, the cumulative impact associated therewith has been classified as low.</i>  No-Go Alternative <i>There is already evidence of scattered alien invasive species surrounding the proposed development footprint. Under the no-go alternative these species are likely to continue multiplying if left unchecked. The current no-go alternative is thus low</i>	DIRECT	MODERATE -	<ul style="list-style-type: none"><li>The site must be checked regularly for the presence of alien invasive species. Any alien seedlings which establish within the site must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants</li></ul>	LOW -
		CUMULATIVE	LOW -	<ul style="list-style-type: none"><li>The alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to during the operational phase.</li><li>Monitoring of the establishment of alien seedlings within the boundaries of the proposed development should continue throughout the operational phase. Any alien seedlings should be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.</li><li>The Rehabilitation Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to during the Operational Phase.</li></ul>	LOW -
		NO-GO	LOW -	<ul style="list-style-type: none"><li>No mitigation possible</li></ul>	LOW -

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>negative.</i>				
IMPACT OF NOISE AND LIGHTING ON FAUNAL POPULATIONS	During the operational phase, noise and lighting associated with the proposed development (including maintenance activities) could cause a disturbance to surrounding faunal populations within the project area.  Cumulative Impact <i>The addition of the noise and lighting associated with the proposed development will exacerbate the impact on faunal species caused by existing developments and activities (including the traffic).</i>  No-Go Alternative <i>The nearby roads, and the noise and lighting associated with the passing traffic, already impacts surrounding faunal population. As such, the no-go alternative is low negative.</i>	DIRECT	LOW -	<ul style="list-style-type: none"><li>Regular maintenance and checks of the infrastructure must be undertaken.</li><li>The mitigation measures specified in the Noise Impact Assessment conducted for the Coleskop and Umsobomvu WEFs must be implemented and adhered to during the operational phase of the proposed development.</li><li>External lighting should be avoided where possible. However, if required, lighting should be down lighting and low wattage</li><li>Minimise access to the site</li></ul>	LOW -
		CUMULATIVE	LOW -		LOW -
		NO-GO	NO IMPACT		
HERITAGE IMPACT ASSESSMENT					
None identified by specialist					
PALAEONTOLOGICAL IMPACT ASSESSMENT					
None identified by specialist					
DECOMMISSIONING PHASE					
AGRICULTURE IMPACT ASSESSMENT					
None identified by specialist					
AVIFAUNAL IMPACT ASSESSMENT					
None identified by specialist					
ECOLOGICAL IMPACT ASSESSMENT					
The ecological impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.					
HERITAGE IMPACT ASSESSMENT					
None identified by specialist					

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
PALAEONTOLOGICAL IMPACT ASSESSMENT					
<i>None identified by specialist</i>					

## 8.4 SUMMARY OF FINDINGS AND COMPARATIVE ASSESSMENT OF IMPACTS

This section includes summaries of each field, including the direct/indirect and cumulative impacts.

### 8.4.1 GENERAL IMPACTS

All the general negative impacts (32) could be mitigated to either LOW (30) negative or MODERATE (2) negative. No-go impacts are not represented in this summary and can be found in Section 8.2 and Appendix C.

**Table 8-6: General Impact Summary.**

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	1	0	4	0	5	0	0	0	10	0	0	0	0	0	0	0
Construction	3	0	11	0	4	0	0	0	16	0	2	0	0	0	0	0
Operations	2	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>6</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.2 AGRICULTURAL IMPACT

The agricultural impacts are all (2 impacts) of LOW negative significance both pre- and post-mitigation (Table 8-7).

**Table 8-7: Agricultural Potential Impact Summary.**

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.3 AVIFAUNAL IMPACT

The Avifaunal Impact Assessment rated most of its impacts as MODERATE negative pre-mitigation (9 impacts). Of these, three (3) can be mitigated to LOW negative post-mitigation significance, while the remaining three (3) specifically related to cumulative impacts remain of a MODERATE negative significance (Table 8-8).

**Table 8-8: Avifaunal Impact Summary.**

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	1	0	1	0	2	0	0	0	2	0	0	0	2	0	0	0
Operations	0	0	2	0	2	0	0	0	2	0	2	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.4 ECOLOGICAL IMPACT

Of the 16 ecological impacts identified 50% of the impacts are of a LOW significance and 50% are of MODERATE pre-mitigation significance. These impacts can be mitigated to mainly LOW (88%) negative significance. No high negative impacts remain post-mitigation.

Table 8-9: Ecological Impact Summary.

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	5	0	7	0	0	0	0	0	10	0	2	0	0	0	0	0
Operations	3	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.5 HERITAGE IMPACT

The pre-mitigation heritage impacts are both rated as LOW negative significance. These relate to the occurrence of Middle Stone Age as well as Early Stone Age archaeological material and more recent historical remains such as stone walling and building ruins on the site as well as the greater surrounds of the area. The impacts can be mitigated to LOW negative significance post-mitigation.

Table 8-90: Heritage Impact Summary.

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.6 PALAEOLOGY IMPACT

The pre-mitigation impact is LOW negative significance (Table 8-101).

Table 8-101: Palaeontology Impact Summary.

DESIGN PHASE	PRE-MITIGATION								POST-MITIGATION							
	LOW		MODERATE		HIGH		VERY HIGH		LOW		MODERATE		HIGH		VERY HIGH	
Positive/Negative	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Planning & Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 8.4.7 CUMULATIVE IMPACT

Overall, the cumulative impact of the proposed Umsobomvu 400kV OHL, when neighbouring existing and authorised WEFs are considered is MODERATE negative. Cumulative impacts, as previous stated, are notoriously difficult to mitigate since environmental legislation, related to monitoring, construction and operation, changes over time. Developers are therefore not always prescribed the same standards of environmental care. In addition to this, cumulative impacts can only be assessed using available data and in some cases older EIAs did not assess impacts to the same level of detail, e.g. specialist studies can vary drastically, which means that data is often limited.

#### **8.4.8 NO-GO ALTERNATIVE**

There are a number of current environmental impacts which are taking place on the proposed site. These impacts relate to alien vegetation, poaching, waste and erosion. The no-go alternatives of the remainder of the impacts mean that the site and its surrounding remain as is (status quo). This means that the negative impacts described in this report would not transpire and nor would the positive impacts.



## 9 SENSITIVITY ANALYSIS

A site development sensitivity map (Figure 9-1) was developed based on specialist and general site information gathered, and the site was classified into areas of low and conditional sensitivity and **NO-GO** no development).

- ✦ **NO-GO** areas included areas of high sensitivity indicated by the avifaunal and ecological specialists, identified heritage sites and buffers around existing infrastructure.
- ✦ **Conditional Sensitivity** areas are areas where construction is conditional on the fulfilment of one or another aspect-specific requirement. For example, all construction in the Heritage conditional sensitivity areas will require sign-off by a palaeontologist to ensure that no fossils (if found) are damaged or destroyed. Other conditional sensitivity areas include areas of moderate sensitivity identified by the avifaunal and ecological specialists including sensitive areas such as watercourses and wetlands.
- ✦ **Low Sensitivity** areas are areas where construction may take place without specific mitigation.

The main objective of the sensitivity analysis is to guide development away from sensitive areas and have development footprints located in areas of lower sensitivity. We have previously used the terms go area; go-but area; and no-go area.

The limitation of the above is that a no-go area is just that – one cannot ever do anything in this area, because its **no-go**. But in certain cases, development is required. A road crossing over a stream, or some other linear infrastructure, which can be developed, provided there is sound mitigation and other constraints are applied. So, it is not no-go but developmentally constrained.

It is therefore preferable to use and map the following categories:

**LOW CONSTRAINT/NONE IDENTIFIED** - These areas can be easily developed, as there are only minor constraints, and little mitigation and management is required (aside from normal building design and construction restrictions outlined in the EMPr).

**LOW-MODERATE CONSTRAINT** – These areas can be developed but require mitigation and management as per the general management conditions of the EMPr.

**MODERATE CONSTRAINT** - These areas can accommodate development, but there are constraints. Mitigation and management will be required to reduce significant environmental impacts to acceptable levels, and appropriate technology (sewage, waste etc.) and design will be required to reduce impacts and ensure sustainability. Sound arguments as to why the development cannot be located in less sensitive areas will be required to justify locating development in moderately constrained areas.

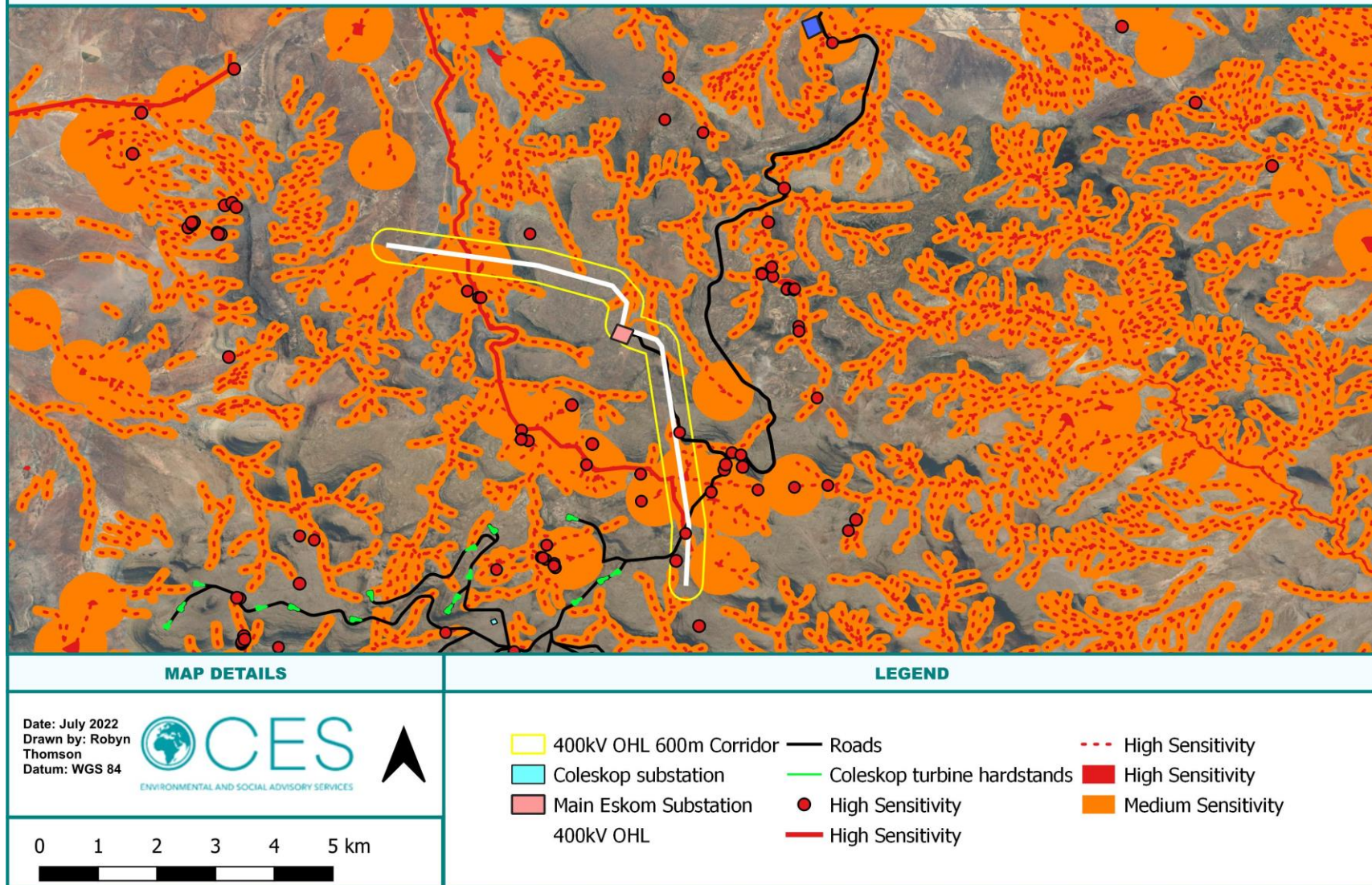
**MODERATE-HIGH CONSTRAINT** – These areas can accommodate development, but there are strict constraints. Mitigation and management will be required to reduce significant environmental impacts to acceptable levels. Sound arguments as to why the development cannot be located in less sensitive areas will be required to justify locating development in moderately-high constrained areas.

**HIGH CONSTRAINT** - If development takes place in these areas, considerable effort (and most likely expense) will be required to design out, mitigate or manage negative environmental impacts. In many cases this will not be possible and in general no development should take place in these areas. Only facilities that are location dependent should be permitted in these areas. For example, a road crossing a sensitive riparian area, or a mine pit that must be located where the resources are.

**NO-GO CONSTRAINT** – areas included areas of high sensitivity indicated by the bird and bat specialists (specific to turbines, rather than roads), identified heritage sites and buffers around existing infrastructure (including a 500m buffer around all noise sensitive areas).

The proposed Umsobomvu 400kV OHL has avoided all **NO-GO** areas identified by the various specialists. Figure 9-1 overlays all sensitive areas identified by these specialists.

## LAYOUT AND SENSITIVITIES



**Figure 9-11: Umsobomvu 400kV OHL Sensitivity Map**

## 10 PUBLIC PARTICIPATION

### 10.1 NOTIFICATION OF INTERESTED AND AFFECTED PARTIES

Public consultation is a legal requirement throughout the EIA process. Developers are required to conduct public consultation throughout the Scoping and EIR phase. Formal EIA documents are required to be made available for public review and comment by the proponent, these include the Project Brief, Scoping Report and Terms of Reference for the EIA, the draft and final EIA reports and the decision of the Competent Authority (DFFE). The method of public consultation to be used depends largely on the location of the development and the level of education of those being impacted on by the project. Required means of public consultation include:

- Site notice(s);
- Newspaper advertisement(s);
- Letter of Notification and information to affected landowner(s), stakeholders and registered I&APs (Proof: e-mail, fax, registered letters to DFFE);
- Background Information Document (BID) distribution;
- Public meeting (Attendance register and meeting minutes); and
- Authority and Stakeholder engagement (DFFE, DWS, SAHRA, DEDEAT, etc.).

Please note that all proof of public consultation has been attached as APPENDIX A.

#### 10.1.1 INTERESTED AND AFFECTED PARTIES (I&APs) IDENTIFICATION AND NOTIFICATION

In addition to the above notification, certain I&APs were identified based on their potential interest in the project. In Table 10-1, relevant organisations are contacted either via e-mail or directly for comment. The Stakeholder and I&AP Database for the proposed Umsobomvu WEF and Coleskop WEF is being used (and updated) for this project as it is part of the same land parcels.

**Table 10-1: Stakeholder and Organisational Database**

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Department of Forestry, Fisheries and the Environment (DFFE)	Mohammad Essop	
	Herman Alberts	
	Zamalanga Langa	
	Bathandwa Ncube	
	Azrah Essop	
	Salome Mambane	
DFFE: Biodiversity & Conservation	Shonisani Munzhedzi	
	Simon Malete	
	BC Admin	
Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) (Eastern Cape)	Nondwe Mdekazi	
	Tim De Jongh	
	Mncedisi Makosonke	
	Alan Southwood	
Department of Nature Conservation and Environmental Affairs (Northern Cape)	Tsholo Makaudi	
Department of Water and Sanitation (DWS) (Eastern Cape)	Lizna Fourie	
DWS (Northern Cape)	Abe Abrahams	



REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
	Ntombizanele Feni	
	Lerato Mokhoantle	
	Mashudu Kgaphola	
	Alexia Hlengani	
	Gawie van Dyk	
Department of Mineral Resources and Energy (DMRE) (Northern Cape)	Ntsundeni Ravhugoni	
	Brenda Monnapula	
DMRE (Eastern Cape)	Brenda Ngebulana	
	Zimkita Tyala	
Department of Agriculture Forestry & Fisheries (DAFF)	Thoko Buthelezi	
	Mashudu Marubini	
Department of Energy	Mokgadi Mathekanga	
Eskom	Eddie Leach	
Eskom: Renewable Energy	John Geeringh	
Eskom: Land & Rights Section	Michelle Nicol	
Pixley District Municipality (Northern Cape)	Sam Diokpala	
Chris Hani District Municipality (Eastern Cape)	Francois Nel	
	Funeka Nxesi	
Umsobomvu Local Municipality (Northern Cape)	Amos Mpela	
Inxuba Yethemba Local Municipality (Eastern Cape)	Mzwandile Sydney Tantsi	
Umsobomvu Local Municipality Ward 2 Councillor	DB Jokka	
Inxuba Yethemba Local Municipality Ward 3 Councillor	Sydney Goniwe	
Inxuba Yethemba Local Municipality Ward 6 Councillor	Siphiwo Njobo	
SALGA Northern Cape	Thatelo Itumeleng	
	Lesang Daniels	
	Johannes Mafereka	
SALGA Eastern Cape	Aseza Dlanjwa	
	Zamikhaya Mpulampula	
	Zona Cokie	
Eastern Cape Provincial Heritage Resources Authority (ECPHRA)	Lennox Zote	
	Sello Mokhanya	
Ngwao Boswa Kapa Bokoni is the Provincial Heritage Resources Authority of the Northern Cape Province	Timothy Ratha	
South African Heritage Resources Agency (SAHRA)	Natasha Higgitt	
Telkom	Raymond Couch	
Sentech	Alishea Viljoen	
Vodacom	Andre Barnard	
MTN	Krishna Chetty	
Cell C	Hugo Dippenaar	
	Rudi Liebenberg	
	Wiaan Vermaak	
	Dirk Van Der Walt	
	Joshua Engelbrecht	
Noupoort Farmers Association (Northern Cape)	SP van der Walt	

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Molteno Agricultural Union (Eastern Cape)	Meyburgh Erasmus	
	Marie Pretorius	
Bamboesberg Agricultural Association (Eastern Cape)	WF Terrblanche	
	Hendrik Venter	
Loperberg Agricultural Association (Eastern Cape)	Kotie van Straaten	
	Stefan Viljoen	
Sandfontein Agricultural Association (Eastern Cape)	Seppie Vermaak	
	Dries Pienaar	
Middelburg District Agricultural Union (Eastern Cape)	Rocco de Villiers	
	Wilna Nel	
Bo-Suurberg Agricultural Association (Eastern Cape)	Eben du Plessis	
Nooitgedacht Agricultural Association (Eastern Cape)	Andries Bester	
	Aletta Erasmus	
Rooihoogte Farmers Association (Eastern Cape)	TP Voster	
	Louzelle Snyman	
Schoombee Farmers Association (Eastern Cape)	Jonathan Southey	
	Riana Southey	
The Willows Agricultural Association (Eastern Cape)	Clift Frewen	
	Bettie Borchers	
Hofmeyr Agricultural Association (Eastern Cape)	Gerald Fletcher	
	Bronwyn Taljaard	
Civil Aviation Authority (CAA)	Lizelle Stroh	
Air Traffic and Navigation Services (ATNS)	Dylan Fryer	
Roads (SANRAL/Public Works)	Nanna Gouws	
BirdLife South Africa	Daniel Marnewick	
BirdLife South Africa	Hanneline Smit-Robinson	
BirdLife South Africa: Birds and Renewable Energy Manager	Samantha Ralson	
BirdLife South Africa: Policy & Advocacy Manager	Simon Gear	
Endangered Wildlife Trust: CEO	Yolan Friedman	
Endangered Wildlife Trust: Head of Conservation Science	Harriet Davies-Mostert	
Endangered Wildlife Trust: African Crane Conservation Programme Manager	Kerryn Morrison	
Endangered Wildlife Trust: African Crane Conservation Programme Field Officer	Glenn Ramke	
Endangered Wildlife Trust: Wildlife & Energy Programme	Lourens Leeuwner	
WESSA NC Regional Representative	Suzanne Erasmus	
WESSA EC Regional Representative	Jenny Gon	
Middelburg Agricultural Show	Stefan Erasmus	
	Rene Joubert	
Middelburg Fire Protection	Removed due to POPI Act email response	
Middelburg Tourism Bureau	Nettie Kok	
Grootfontein Agricultural Development Institute	Joan Oosthuizen	
Wildlife Ranching RSA	Ankie Stroebel	

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
East Cape Game Management Association		
INDALO	Vanessa Collett	

**Table 10-2: Registered I&APs (as part of the I&AP Database).**

REGISTERED I&APS		
REGISTERED I&AP	NAME	CONTACT DETAILS
Private Landowner	Andries Keun	
Private Landowner	Jannie Evans	
Sherborne Guesthouse	Annatjie Moore	
CABAC	Pierre Jonker	
Private	Bardenhorst	
EWT: Threatened Grassland Species Programme	Bradley Gibbons	
Department of Environmental Affairs	Sonwabile Nkondeshe	
Department of Environment and Nature Conservation (DENC)	Jim Bopape	
Private Landowner	Allen Lange	
ECDC	Rory Haschick	
Integrated Wind Power	Jonathan Visser	
Leads 2 Business	Karen Clark	
G7 Renewable Energies (Pty) Ltd	Veronique Fyfe	
Grass Master CC	Ryan Holmes	
	Wally Holmes	
Mario's Fencing Works	Mario Bratz	
Abo Wind	Mike Mangnall	
Endangered Wildlife Trust	Bradley Gibbons	
Endangered Wildlife Trust	Christie Craig	

**Table 10-3: Landowners and Surrounding Landowners (as part of the I&AP Database).**

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
60/1	Klip Krands	Andre Nesor	
3/5	Uitzicht		
75/4	Schorpioen Kraal		
133/RE	Holle Fountain	Fauntleroy Bartholomew Gillmer	
133/1	Holle Fountain		
133/4	Holle Fountain		
118/1	Winterhoek		
119/RE	Vlage Kop		
140/2	Wonder Heuvel		
140/4	Wonder Heuvel	Lindo van der Merwe	
135/1	Elands Kloof		
3/2	Uitzicht		
3/3	Uitzicht		
3/7	Uitzicht		
3/8	Uitzicht		
3/RE	Uitzicht		
3/4	Uitzicht		
61/2	Leeuw Hoek		
133/3	Holle Fountain		
120/RE	Leuwe Kop		
120/1	Leuwe Kop		



REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
3/6	Uitzicht		
61/RE	Leeuw Hoek	Abbott Erasmus	
61/6	Leeuw Hoek		
61/4	Leeuw Hoek		
61/3	Leeuw Hoek		
61/7	Leeuw Hoek		
133/2	Holle Fountain		
62/2	Paarde Valley		
3/1	Uitzicht		
3/11	Uitzicht		
136/RE	Winterhoek		Vivian Stephan van der Merwe
135/RE	Elands Kloof		
118/RE	Winterhoek		
113/1	Elands Heuvel	Jacobus Andries van der Merwe	
4/RE	Annex Grys Kop	SJV Wild CC	
4/1			
7/2	Gryse Kop	Andries Thertius Barnard	
7/4		Hermanus Jacobus Pieterse	
7/3		Paulus Johannes Jacobus Visser	
7/9		Barend Andries Mouton	
7/8		Hermanus Bernardus Swart	
7/7		Allen Mark Lange	
		Michael Frederick Pretorius	
59/RE		Farm59	Francois Felix van der Ryst
60/7	Klip Krands		
3/10	Uitzicht	Andries Jacobus Bester (Middelburg Nguni Stud CC)	
3/9	Uitzicht		
60/9	Klip Krands	Gideon Jacobus Delport	
78/RE	Farm78		
75/2	Schorpioen Kraal	Gys Steyn (GM Steyn Trust)	
76/6	Vogelfontein		
60/8	Klip Krands		
76/3	Vogelfontein		
75/3	Schorpioen Kraal		
76/RE	Vogelfontein		
75/7	Schorpioen Kraal		
75/5	Schorpioen Kraal		
75/RE	Schorpioen Kraal		
60/10	Klip Krands		Cliff
61/1	Leeuw Hoek		
69/2	Vink Fontein		
131/2	Rietfontein		
131/RE	Rietfontein		
140/RE	Annex Fonteintjie		
75/8	Schorpioen Kraal		
75/6	Schorpioen Kraal		
60/3	Klip Krands		
60/4	Klip Krands		
67/RE	Kapok Hoek	Doornvlei Boerdery CC	
140/3	Wonder Heuvel		

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
133/5	Holle Fontein	Annette van Lingen (Wonderheuwel Trust)	
140/1	Wonder Heuvel		
121/RE	Mooi Plaats		
65/2	Zaay Fontein	Marais Trust (Nick Joubert (Miemie) - Van Zyls Rust)	
67/5	Kapok Hoek		
67/1	Kapok Hoek		
65/RE	Zaay Fontein	Sarel David Theron	
65/1	Zaay Fontein	Colin Douglas Kingwell	
63/RE	Septembers Kraal		
122/RE	Vlak Plaats	Marthinus Triegaardt du Plessis	
146/RE	Elandsheuwel	Hendrikus Jacobus Visser (Visser Familietrust)	
146/1	Elandsheuwel		
7/RE	Gryse Kop	Martha Johanna van Heerden & Daniel Jacobus van Heerden	
7/6	Gryse Kop		
8/5	Groote Hoek	Laurraine Eugene Miller	
8/2	Groote Hoek		
61/5	Leeuw Hoek	Pieter Kuyper Albertyn	

### 10.1.2 SURROUNDING AND AFFECTED LANDOWNERS

The Stakeholder and I&AP Database for the proposed Umsobomvu WEF and Coleskop WEF is being used (and updated) for this project as it is part of the same land parcels.

### 10.1.3 REGISTERED I&APS

Other than I&APs initially identified and any persons requesting to be registered as I&APs have been and will continue to be included in the I&AP database (Appendix A).

## 10.2 ACTIVITY ON LAND OWNED BY A PERSON OTHER THAN THE APPLICANT

In accordance with Section 39 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), which states that “If the proponent [Applicant] is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land.” EDF Renewables, on behalf of Umsobomvu Wind Power (Pty) Ltd, has engaged with the landowner and received written consent, to undertake the proposed activities on the proposed property, from the affected landowners.

## 10.3 OBJECTIVES OF THE PPP

In accordance with Section 40 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), the purpose of public participation is to provide all potential or registered I&APs, including the Competent Authority, with the opportunity to access the relevant documents and information which could reasonably or potentially influence any decision with regards to the proposed Umsobomvu 400kV Turn-in System Application for EA. The process aims to –

- Disclose activities planned by the Applicant and steps in the Scoping and EIA Process by the environmental team;
- Identify concerns and grievances raised by the I&APs;

- Respond to all the I&APs grievances and enquiries;
- Identify local expertise, needs and knowledge from the I&APs;
- Identify additional or new stakeholders and people affected by, or interested in, the proposed project;
- Gather perceptions and comments on the specialist studies;
- Ensure that all issues raised by I&APs have been adequately addressed and/or assessed; and
- Share the findings of the Scoping Process and EIA Process, such as significant impacts, mitigation measures, management actions, and monitoring programmes.

The PPP must include consultation with the following key members –

- The Competent Authority: National DEFF;
- All state departments which have laws relating to the proposed activity or the proposed location of the activity;
- The affected landowner and surrounding landowners;
- All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
- The registered and potential I&APs.

## 10.4 LEGISLATIVE REQUIREMENTS

In accordance with Section 41 (2) of Chapter 6, the person conducting the PPP must provide notice using the following methods –

- a) Placing a notice board/(s) at a visible location, which are accessible to the public, on the boundary of the affected property and within proximity to the affected property must [please see Section 10.6 for photographs and coordinates of the onsite signage]. The notice board/(s) must –
  - Be at least 60 cm x 42 cm in size;
  - Specify whether a Basic Assessment Process or Scoping and EIA Process is triggered by the proposed activity;
  - Indicate the nature and location of the activity to which the application relates;
  - Explain where further information can be obtained; and
  - Stipulate the manner in which and the person to whom correspondence relating to the application or proposed application may be made.
- b) Providing written notice to [please see proof included as Appendix C] –
  - The owner and/or occupiers of the proposed site as well as the owner(s) and/or occupiers of the alternative sites;
  - The owners and/or occupiers of the land adjacent to the site as well as the owners and/or occupiers of the land adjacent to the alternative sites;
  - The municipal ward councillor of the affected property and the alternative sites (if different to the preferred alternative) as well as any organisation of ratepayers that represent the community in the affected area;
  - The municipality which has jurisdiction in the area;
  - All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
  - Any other parties as required by the Competent Authority.
- c) Placing an advertisement in one (1) local newspaper and/or any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations [please see Section 10.6 for proof of advertisement];

- d) If necessary, placing an advertisement in one (1) provincial newspaper or national newspaper if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken; and
- e) Using reasonable alternative methods, as agreed to by the Competent Authority, in those instances where a person is interested but not able to participate in the process due to illiteracy, disability or any other disadvantage.

## 10.5 INTERESTED AND/OR AFFECTED PARTIES (I&APS)

According to Sections 42 to 44 of Chapter 6, the Applicant (or the EAP on behalf of the Applicant) must ensure the opening and maintenance of a register of I&APs and submit such register to the Competent Authority, which register must contain the names, contact details and address of (a) all persons who have submitted comments during the PPP on the proposed Umsobomvu 400kV Turn-in System, (2) all individuals who have requested to register/registered on the project I&AP Database, and (3) all organs of state which have jurisdiction in respect of the activity to which the application relates. \* Please see Table 8-1 which includes all registered Stakeholders and I&APs which requested to be registered or were registered in accordance with the legislative requirements during the Umsobomvu WEF Scoping and EIA Process PPP as well as the EA Amendments. Therefore, please note that individuals who registered on the original Umsobomvu WEF I&AP Database and subsequent EA amendments were automatically registered on the Umsobomvu 400kV Turn-in System Stakeholder and I&AP Database due to the proximity of the developments to each other and linkages between the developments.

The Draft SR and associated reports was be made available for Public Review for a period of thirty (30) days, from the 27<sup>th</sup> of June 2022 until the 27<sup>th</sup> of July 2022. The Draft SR was made available on the CES website at <http://www.cesnet.co.za/public-documents> and at the Noupoot Municipality (hardcopy) and the Middelburg Library (hardcopy).

The Draft EIR and associated reports will be made available for Public Review for a period of thirty (30) days, from the 31<sup>st</sup> of October 2022 until the 31<sup>st</sup> of November 2022. The Draft EIR will be made available on the CES website at <http://www.cesnet.co.za/public-documents> and at the Noupoot Municipality (hardcopy) and the Middelburg Library (hardcopy).

Please refer to Section 10.6 on the following page, as well as Appendix C (Proof of PPP) and Appendix D (Comments and Response Trail) for proof of PPP and copies of all comments received to date – as well as the responses to these comments. These sections will be updated throughout the Scoping and EIA Process.

## 10.6 PROOF OF PUBLIC PARTICIPATION

### 10.6.1 *PROOF OF SITE NOTICE BOARD PLACEMENT*

Please see Appendix C: Proof of PPP, which includes photographs of the signage which was placed at the entrance to the site on the N10.

### 10.6.2 *PROOF OF ADVERTISEMENT*

Adverts were placed in the Daily Dispatch (Eastern Cape) and the Volksblad (Northern Cape). The two newspapers are provincial newspapers published weekly in the Northern Cape and Eastern Cape Provinces. Due to the site being situated across two provinces provincial newspapers will be used. Please see Appendix C: Proof of PPP, which includes copies of the advert placed.

### **10.6.3      *PROOF OF STAKEHOLDER AND I&AP NOTIFICATIONS***

Please see Appendix C: Proof of PPP, which includes copies of the notifications which were sent to registered Stakeholders and I&APs. This appendix will be continually updated throughout the process.

The Draft Scoping Report was made available on the CES website ([www.cesnet.co.za](http://www.cesnet.co.za)) in softcopy format. It was also made available at the Middelburg Library (Eastern Cape) in hardcopy format, as well as the Noupoot Municipality (Northern Cape) in hardcopy format. In addition to this the Draft Scoping Report was uploaded onto SAHRIS for comment by SAHRA and EC-PHRA.

### **10.6.4      *COPIES OF WRITTEN COMMENTS RECEIVED***

Please see Appendix C: Proof of PPP, which includes copies of the written comments on the Umsobomvu 400kV Turn-in System Draft SR which were received during the 30-day public review period (to be updated for PPP processes and maintained throughout).

### **10.6.5      *COMMENTS AND RESPONSE TRAIL***

Please see Appendix D: Comments and Response Trail which includes all the comments which were received during the 30-day public review period on the Umsobomvu 400kV Turn-in System Draft SR as well as the EAP and/or Applicant responses to these comments (to be updated for PPP processes and maintained throughout).

Stakeholders who commented on the Draft Scoping Report included (this will be updated after the Draft EIR PPP review):

- DFFE;
- DFFE Biodiversity and Conservation;
- SAHRA; and
- EC-PHRA.

# 11 CONCLUSION AND RECOMMENDATIONS

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## 11.1 DESCRIPTION OF THE PROPOSED ACTIVITY

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines.

The proposed Umsobomvu 400kV Turn-in System will consist of the following:

- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2)

## 11.2 NEED AND DESIRABILITY

The need to reduce greenhouse gas emissions and the importance of a secure and diversified energy supply has resulted in a national shift towards the use of renewable energy technologies. In support of this, the national and provincial government has encouraged the utilisation of renewable energy through policy and strategic planning. The proposed Umsobomvu 400kV OHL can contribute towards these national and provincial goals by providing Umsobomvu WEF and Coleskop WEF, amongst other renewable energy facilities, access to the National Grid. The proposed Umsobomvu 400kV OHL would aid in stabilising the local and provincial grid network, leading to a more stable and long-term solution to the energy requirements of the region and the country at a whole.

## 11.3 ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE

This report is based on currently available information and, as a result, the following limitations and assumptions are implicit–

- This report is based on a project description and site plan, provided to CES by the applicant, which has not been approved by DFFE at this stage of the project. The project description and site plan may undergo iterations and refinements before being regarded as final. A project description based on the final design will be concluded once DFFE has provided feedback on the layout provided in this report.
- Descriptions of the natural and social environments are based on limited fieldwork and available literature.
- It should be emphasised that information, as presented in this document, only has reference to the study area as indicated on the accompanying maps. Therefore, this information cannot be applied to any other area without a detailed investigation being undertaken.

## 11.4 FATAL FLAWS

It is the opinion of the EAP that, based on the information gathered during the course of the EIA process, including specialist studies and PPP, the impacts described do not represent any fatal flaws regarding the proposed Umsobomvu 400kV OHL.



## 11.5 OPINION OF THE EAP

Based on the contents of this report, and all associated documentation, it is the opinion of the EAP that the proposed Umsobomvu 400kV OHL be authorised on condition that all conditions stipulated in Section **Error! Reference source not found.** of this report be contained within the EA.

## 12 APPENDIX A: CURRICULUM VITAE OF THE ENVIRONMENT TEAM

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- Dr Alan Carter (CES, *Executive and Principal Consultant*)
- Ms Caroline Evans (CES, *Principal Consultant*)

## CONTACT DETAILS

<b>Name of Company</b>	<b>Coastal and Environmental Services (Pty) Ltd. t/a CES</b>
<b>Designation</b>	East London Branch – Executive
<b>Profession</b>	Executive
<b>Years with firm</b>	18 (Eighteen) Years
<b>E-mail</b>	<a href="mailto:a.carter@cesnet.co.za">a.carter@cesnet.co.za</a>
<b>Office number</b>	+27 (0) 43 – 7267809 / 8313
<b>Nationality</b>	South African
<b>Professional Affiliations</b>	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioners Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA)
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>• Marine Ecology</li><li>• Environmental and coastal management</li><li>• Waste management</li><li>• Financial accounting and project feasibility studies</li><li>• Environmental management systems, auditing and due-diligence</li></ul>

## PROFILE

### Dr Alan Carter

Alan has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years.

**EMPLOYMENT  
EXPERIENCE**

- October 2013 – Present: Executive (EOH Coastal & Environmental Services, East London, South Africa)
- January 2002 – September 2013: Director (Coastal & Environmental Services, East London, South Africa)
- January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)
- December 1996 – December 1998: Senior Accountant/Auditor (Ernst & Young LLP, Public Accounting Firm, Austin, Texas, USA.)
- January 1994 – December 1996: Senior Accountant/Auditor (Ernst & Young, Charteris & Barnes, Chartered Accountants, East London, South Africa)
- July 1991 – December 1994: Associate Consultant (Coastal & Environmental Services, East London, South Africa)
- March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)

**ACADEMIC  
QUALIFICATIONS**

- Ph.D. Plant Science (Marine) Rhodes University 1987
- B. Compt. Hons. Accounting Science University of South Africa 1997
- B. Com. Financial Accounting Rhodes University 1995
- B.Sc. Hons. Plant Science Rhodes University 1983
- B.Sc. Plant Science & Zoology Rhodes University 1982

**CONTINUING  
PROFESSIONAL  
DEVELOPMENT**

- Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000)
- ISO 14001:2015 Implementing Changes - British Standards Institute (2015)
- Numerous other workshops and training courses

**PROFESSIONAL  
EXPERIENCE**

**Environmental Impact Assessment, Feasibility and Pre-feasibility Assessments:-**

- Managed numerous projects and prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including: Infrastructure projects: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.
- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.
- Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).
- Managed pre-feasibility study to establish a Mariculture Zone within the Coega Industrial Development Zone (2014).
- Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).
- Acted as Environmental Control Officer (ECO) for numerous projects including solar and wind farms, roads, industrial processes, etc.

**Strategic Environmental Assessment:-**

- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).

**Climate change, emissions trading and renewable energy:-**

- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).

- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016).
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate Change Risk Strategy (2009)
- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.
- Participated in the preparation of CDM applications for two solar PV projects in the Eastern Cape.

**Waste Management:-**

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Managed project to develop Integrated Waste Management Plans for four local municipalities on behalf of Alfred Nzo District Municipality in the Eastern Cape Province (2015).
- Managed project to develop Integrated Waste Management Plans for eight local municipalities on behalf of Chris Hani District Municipality in the Eastern Cape Province (2011).
- Managed a project to develop a zero-waste strategy for a community development in the Eastern Cape Province (2010).
- Managed waste management status quo analysis for a District Municipality in the Eastern Cape Province (2003).
- For three consecutive years, managed elements of the evaluation of the environmental financial reserves of the three largest solid waste companies (Waste Management, Inc., Republic Services, Inc., Allied Waste, Inc.) and number of smaller waste companies in the USA as part of the annual financial audit process for SEC reporting purposes. Ensured compliance with RCRA and



CERCLA environmental regulations.

- Managed elements of the evaluation of the environmental financial reserves of the largest hazardous waste company in the USA (Safety-Kleen, Inc.), as part of the audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.

**Environmental Due Diligence and Business Risk:-**

- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011)
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

**Policy and Guidelines:-**

- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters
- Discharge Permits, Dumping Of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated

with the implementation of the Integrated Coastal Management Act (2007).

- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).
- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 20010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

**Environmental auditing and compliance:-**

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for three (3) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013)
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).
- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation

**Public financial accounting:-**

- While with Ernst & Young LLP, (USA), functioned as lead financial auditor for various public and private companies, mostly in the technology business segment of up to \$200 million in annual sales. Client experience included assistance in a \$100 million debt offering, a \$100 million IPO and SEC annual and quarterly reporting requirements.
- Completed three years of articles (training contract) in fulfilment of the certification requirements of the South African Institute of Chartered

Accountants which included auditing, accounting and preparation of tax returns for many small to medium sized commercial entities.

**Refereed Publications:-**

- Carter, A.R. 1985. Reproductive morphology and phenology, and culture studies of *Gelidium pristoides* (Rhodophyta) from Port Alfred in South Africa. *Botanica Marina* 28: 303-311.
- Carter, A.R. 1993. Chromosome observations relating to bispore production in *Gelidium pristoides* (Gelidiales, Rhodophyta). *Botanica Marina* 36: 253-256.
- Carter, A.R. and R.J. Anderson. 1985. Regrowth after experimental harvesting of the agarophyte *Gelidium pristoides* (Gelidiales: Rhodophyta) in the eastern Cape Province. *South African Journal of Marine Science* 3: 111-118.
- Carter, A.R. and R.J. Anderson. 1986. Seasonal growth and agar contents in *Gelidium pristoides* (Gelidiales, Rhodophyta) from Port Alfred, South Africa. *Botanica Marina* 29: 117-123.
- Carter, A.R. and R.H. Simons. 1987. Regrowth and production capacity of *Gelidium pristoides* (Gelidiales, Rhodophyta) under various harvesting regimes at Port Alfred, South Africa. *Botanica Marina* 30: 227-231.
- Carter, A.R. and R.J. Anderson. 1991. Biological and physical factors controlling the spatial distribution of the intertidal alga *Gelidium pristoides* in the eastern Cape Province, South Africa. *Journal of the Marine Biological Association of the United Kingdom* 71: 555-568.

**Published reports:-**

- Water Research Commission. 2006. Profiling Estuary Management in Integrated Development Planning in South Africa with Particular Reference to the Eastern Cape. Project No. K5/1485.
- Turpie J., N. Sihlophe, A. Carter, T. Maswime and S. Hosking. 2006. Maximising the socio-economic benefits of estuaries through integrated planning and management: A rationale and protocol for incorporating and enhancing estuary values in planning and management. Un-published Water Research Commission Report No. K5/1485

**Conference Proceedings:-**

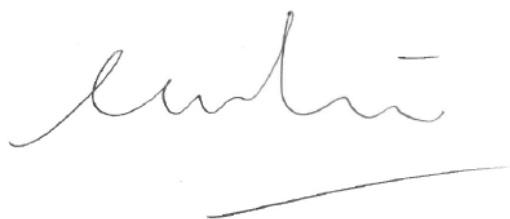
- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting for environmental closure costs and remediation liabilities in the South African mining industry. Proceedings of the Mining and Sustainable Development Conference. Chamber of Mines of South Africa, Vol. 2: 6B1-5
- Carter, A.R. and S. Fergus. 2004. Sustainability analysis of wastewater treatment options on the West Bank of East London, Buffalo City. Proceedings of the Annual National Conference of the International Association for Impact

Assessment, South African Affiliate: Pages 295-301.

- Carter, A., L. Greyling, M. Parramon and K. Whittington-Jones. 2007. A methodology for assessing the risk of incurring environmental costs associated with port activities. Proceedings of the 1st Global Conference of the Environmental Management Accounting Network.
- Hawley, GL, McMaster AR and Carter AR. 2009, Carbon, carbon stock and life-cycle assessment in assessing cumulative climate change impacts in the environmental impact process. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate.
- Hawley, GL, McMaster AR and Carter AR. 2010. The Environmental and Social Impact Assessment and associated issues and challenges. African, Caribbean and Pacific Group of States (ACP), Science and Technology Programme, Sustainable Crop Biofuels in Africa.
- Carter, A.R. 2011. A case study in the use of Life Cycle Assessment (LCA) in the assessment of greenhouse gas impacts and emissions in biofuel projects. 2nd Environmental Management Accounting Network- Africa Conference on Sustainability Accounting for Emerging Economies. Abstracts: Pages 69-70.

#### **CERTIFICATION**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



**Alan Robert Carter**

Date: 22 January 2020

## CONTACT DETAILS

<b>Name of Company</b>	<b>CES – Environmental and Social Advisory Services</b>
<b>Designation</b>	Grahamstown Branch
<b>Profession</b>	Principal Environmental Consultant
<b>Years with firm</b>	7 Years
<b>E-mail</b>	<a href="mailto:c.evans@cesnet.co.za">c.evans@cesnet.co.za</a>
<b>Office number</b>	+27 (0)46 622 2364
<b>Nationality</b>	South African
<b>Professional Body</b>	SACNASP, South African Council for Natural Scientific Profession, Professional 2017 IAIA
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>➤ Project Management</li><li>➤ Renewable Energy</li></ul>

## PROFILE

### Ms Caroline Evans

Ms Caroline Evans is a Principal Environmental Consultant based in the Grahamstown branch. She holds a BSc degree in Zoology and Environmental Science (with distinction) and a BSc Honours degree in Environmental Science (with distinction), both from Rhodes University. Caroline has completed accredited courses in environmental impact assessments and wetland assessments.

Caroline's primary focuses include Project Management, the general Environmental Impact Assessment Process, Visual Impact Assessments and Wetland Impact Assessments. Examples of fields in which Caroline was the project manager and lead report writer include Wind Energy Facilities and the associated infrastructure (including powerlines), Solar PV, Waste Water Treatment Works, Housing Developments and Agricultural Developments. Her experience with wind energy facilities and associated infrastructure includes the project management and report writing for the Umsobomvu WEF, Dassiesridge WEF, Scarlet Ibis WEF, Albany WEF, Waaihoek WEF and the Great Kei WEF.

Caroline is well versed in South African policy and legislation relating to development, particularly in the Eastern Cape Province. In addition, Caroline's project management experience has helped her gain knowledge and experience in the technical and financial management and coordination of large specialist teams, competent authority and stakeholder engagement, and client liaison.

## CAROLINE ANN EVANS

### Curriculum Vitae



#### EMPLOYMENT EXPERIENCE

##### **CES, Senior Environmental Consultant**

*August 2020 – present*

- Project Management
- Renewable Energy Consultant

##### **EOH Coastal and Environmental Services, Senior Environmental Consultant**

*August 2016 – July 2020*

- Project Management
- Renewable Energy Consultant
- Wetland Specialist

##### **EOH Coastal and Environmental Services, Environmental Consultant**

*November 2013 – July 2016*

##### **Rhodes University, Department of Environmental Science, Graduate Assistant**

*January 2010 – January 2012*

#### ACADEMIC QUALIFICATIONS

##### **Rhodes University, Eastern Cape, South Africa**

B.Sc. Honours Environmental Science (with distinction)  
2011

##### **Rhodes University, Eastern Cape, South Africa**

B.Sc. Zoology & Environmental Science (with distinction)  
2007-2010

#### COURSES

- Rhodes University, Eastern Cape  
“Tools for Wetland Assessment” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Urban Ecology” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Post Graduate Statistics” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Environmental Impact Assessment” 2013. (with distinction)

#### CONSULTING EXPERIENCE

##### **ENVIRONMENTAL IMPACT ASSESSMENTS:**

- Project: Albany Wind Energy Facility (Grahamstown, EC)  
Role: Project Manager and Report Production
- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoot, NC)  
Role: Project Manager and Report Production
- Project: Waainek Wind Energy Facility Post-Construction Bird and Bat  
Monitoring (Grahamstown, EC)



Role: Project Manager and Report Production

- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)  
Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Project Manager and Report Production
- Project: Great Kei Wind Energy Facility (Komga, EC)  
Role: Assistant Project Manager and Report Production
- Project: Doorndraai Citrus Plantation (Cookhouse, EC)  
Role: Project Manager and Report Production
- Project: Fishwater Flats WWTW Biogas (Port Elizabeth, EC)  
Role: Report Production
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)  
Role: Report Production

**BASIC ASSESSMENTS:**

- Project: Albany Powerline (Grahamstown, EC)  
Role: Project Manager and Report Production
- Project: Scarlet Ibis Wind Energy Facility (NMBM, EC)  
Role: Project Manager and Report Production
- Project: Grey Jade Waterfall Feedlot Biogas (Berlin, EC)  
Role: Project Manager and Report Production
- Project: Black Lite Solar 5MW PV (Berlin, EC)  
Role: Project Manager and Report Production
- Project: Sitrusrand Kirkwood Citrus (Kirkwood, EC)  
Role: Project Manager
- Project: Kareekrans Middleton Pivot (Middleton, EC)  
Role: Project Manager
- Project: Uitsig Boerdery Kirkwood Citrus (Kirkwood, EC)  
Role: Project Manager

**OTHER REPORTS:**

- Project: Eastern Cape Biofuels Strategic Environmental Assessment (EC)  
Role: Report Production
- Project: Coega Industrial Development Zone (EC)

Role: Report Production

- Project: Umsobomvu WEF EA Amendments (EC & NC)  
Role: Project Manager and Report Production
- Project: Dassiesridge WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Great Kei WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Ukomeleza WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Motherwell WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Golden Valley II WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Peddie WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Nqamakwe WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Thomas River Renewable Energy Facility EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Qunu WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production

**SPECIALIST REPORTS:**

- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoot, NC)  
Role: Visual Impact Assessment
- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)  
Role: Visual Impact Assessment
- Project: Great Kei Wind Energy Facility (Komga, EC)  
Role: Visual Impact Assessment
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Visual Impact Assessment & Wetland Impact Assessment
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)  
Role: Visual Impact Assessment
- Project: Oyster Bay Wind Energy Facility (Oyster Bay, EC)  
Role: Wetland Impact Assessment

### **CERTIFICATION**

---

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



**CAROLINE ANN EVANS**

Date: June 2019

## 13 APPENDIX B: EAP DECLARATION



### environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

#### DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

#### PROJECT TITLE

PROPOSED UMSOBOMVU 400KV TURN-IN OVERHEAD LINE (OHL), EASTERN CAPE AND NORTHERN CAPE PROVINCES

#### Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

#### Departmental Details

##### Postal address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Private Bag X447  
Pretoria  
0001

##### Physical address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Environment House  
473 Steve Biko Road  
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:  
Email: [EIAAdmin@environment.gov.za](mailto:EIAAdmin@environment.gov.za)

## 1. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

Company of Environmental Assessment Practitioner:	Coastal and Environmental Services (Pty) Ltd. t/a CES			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	1	Percentage Procurement recognition	135%
EAP name:	Dr Alan Carter			
EAP Qualifications:	PhD, Plant Sciences, Rhodes University 1987 B.Compt Hons. Accounting Science, University of South Africa 1997 BSc (Honours), Plant Science, Rhodes University 1983 BSc, Plant Science & Zoology, Rhodes University 1982			
Professional affiliation/registration:	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioner Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA) IAIA: International Association of Impact Assessment			
Physical address:	25 Tecoma Street Berea East London 5214			
Postal address:	PO Box 8145 Berea East London 5214			
Postal code:	5200	Cell:	083 379 9861	
Telephone:	043 726 7809	Fax:	043 726 8352	
E-mail:	a.carter@cesnet.co.za			

The appointed EAP must meet the requirements of Regulation 13 of GN R982 of 04 December 2014, as amended.


## 2. DECLARATION BY THE EAP

I, Dr Alan Carter, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.



- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

- 

Date \_\_\_\_\_

## Date \_\_\_\_\_

05<sup>TH</sup> August 2022

Date \_\_\_\_\_

### Details of EAP, Declaration and Undertaking Under Oath











#### NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR THE UMSOBOMVU 400KV OHL TURN-IN SYSTEM WITHIN THE EASTERN CAPE AND NORTHERN CAPE PROVINCES

Notice is hereby given in terms of Regulation 41(2) published in Government Notice No. 982 under Chapter 6 of the National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014, as amended) of the intention to submit an Application for Environmental Authorisation (EA) for the proposed development of the Umsobomvu 400kV Overhead line (OHL) Turn-in System within the Umsobomvu (Northern Cape) and Inxuba Yethemba (Eastern Cape) Local Municipalities.

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines. Umsobomvu Wind Power is seeking the services from a South African-based EAP to carry out a full Scoping and EIA process, in the Northern Cape and Eastern Cape Provinces. The proposed Umsobomvu 400kV Turn-in System will consist of the following:

- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2)

The development of the proposed 400kV OHL triggers NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014, as amended) Listing Notice 1, 2 and 3 activities, including Listing Notice 2 Activity 9 for the development of facilities or infrastructure for the generation of transmission and distribution of electricity; and therefore requires a Scoping and EIA Process. Coastal and Environmental Services (Pty) Ltd, trading as "CES", have been appointed to undertake the required Scoping and EIA Process. The Competent Authority for this Application for EA is the national Department of Forestry, Fisheries and the Environment (DFFE).

For more information, registration as an Interested and/or Affected Party (I&AP) or submission of written comments, please contact Ms Caroline Evans via post, phone or email: P.O. Box 934, Makhanda (Grahamstown), 6140 | Tel: +27 (0)46 622 2364 | Email: [reppp@cesnet.co.za](mailto:reppp@cesnet.co.za) \* Please include the project reference in all correspondence: **Umsobomvu 400kV**.

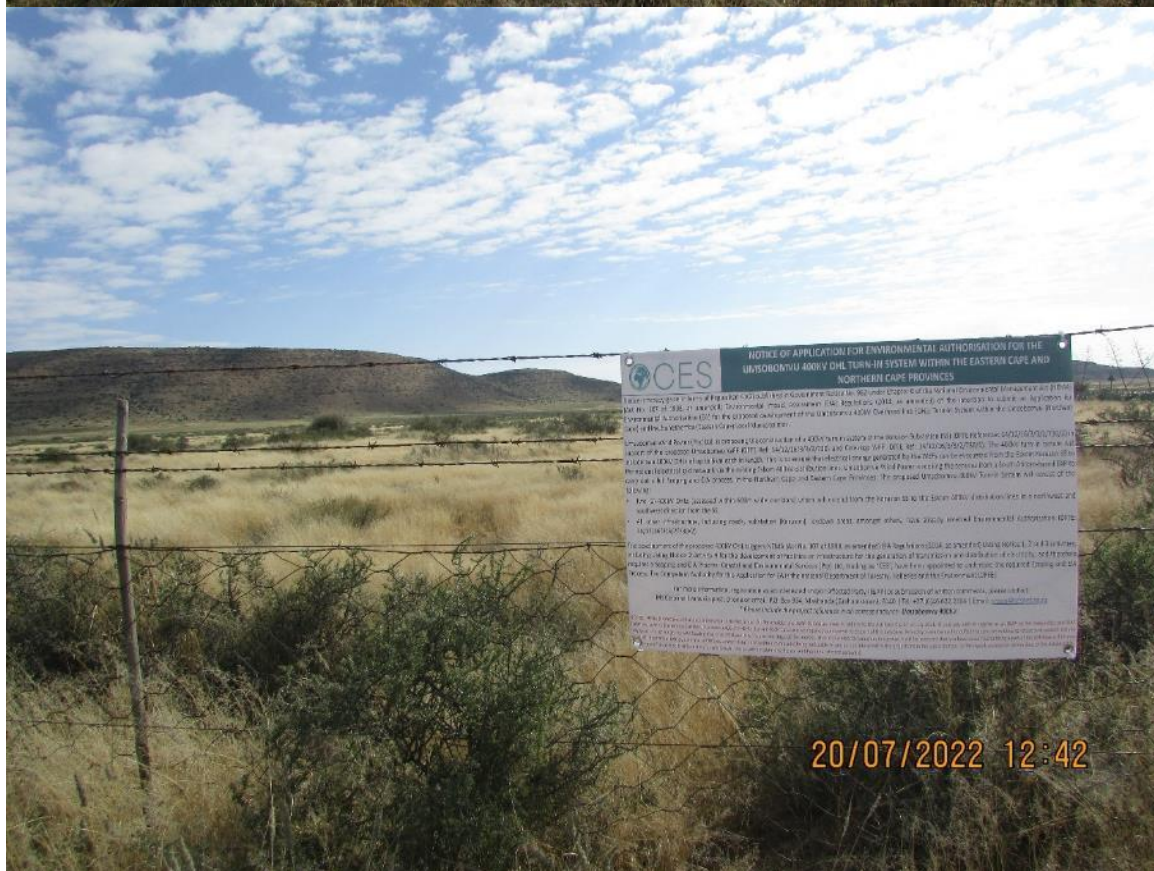
**NOTICE:** POPIA (Protection of Personal Information Act) Disclaimer. All Stakeholder and I&AP Databases need to adhere to the Act from the 1st of July 2021. Should you wish to register as an I&AP on the Stakeholder and I&AP Database, as the administrators of the Umsobomvu 400kV Stakeholder and I&AP Database we require your consent to be part of this database. As such you are herewith notified that you are entitled to refuse such consent and you may exercise such a right by withdrawing from this database in writing at any stage of the process. Should you elect to remain in this group, it will be accepted that you have consented to being a part of this database and to your personal information (being your name, affiliation, contact details and written comments) being noticeable to any person interested in this project and in the public domain. In this regard, we implore all members of this database NOT to make use of such personal information for whatsoever reason without obtaining the consent from the relevant person(s).

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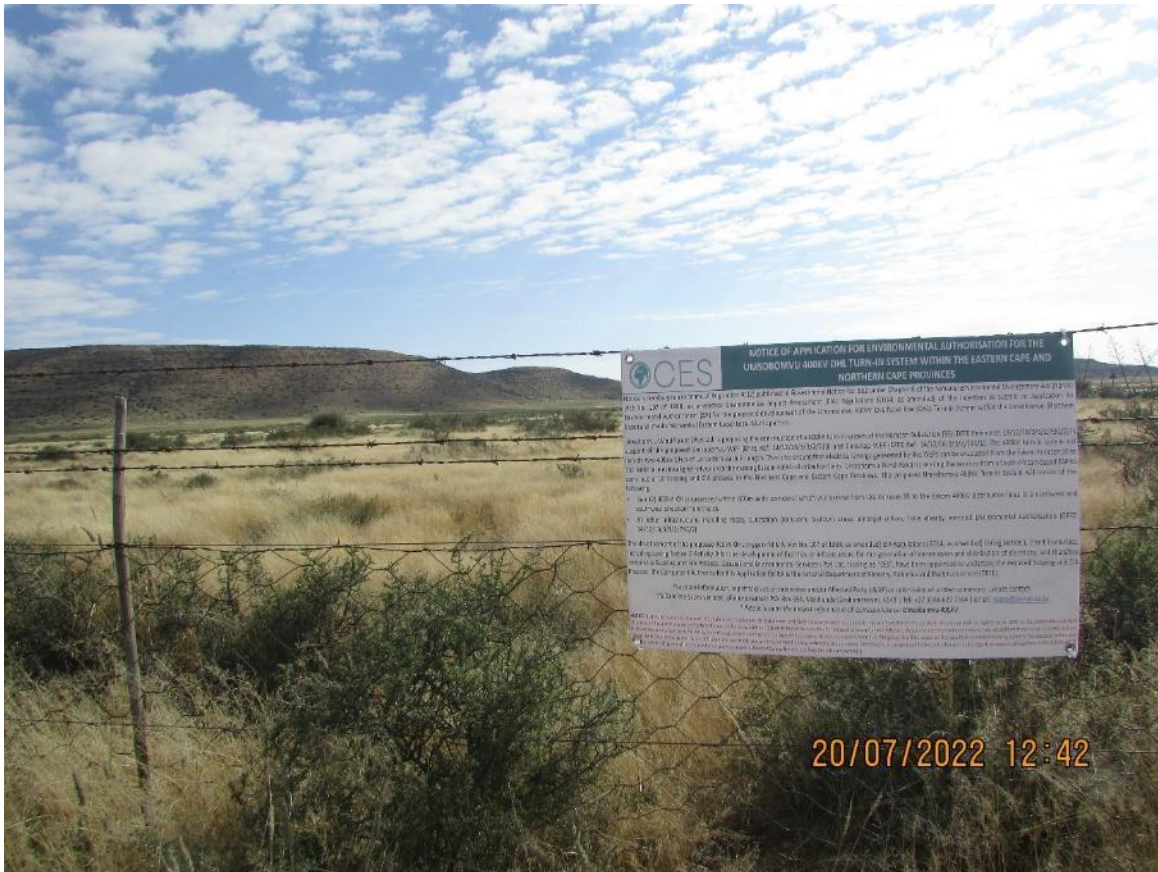
## 14.2 PROOF OF ADVERT 2: THE HERALD (TO BE PLACED AS PART OF THE EIR PROCESS)




## 14.3 PROOF OF SITE NOTICE (ENTRANCE TO THE SITE, N10)







## 14.4 PROOF OF SAHRIS UPLOAD (SCOPING PHASE)


 Heritage Cases

VIEW

EDIT

### Umsobomvu 400kV OHL

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CaseHeader	LocationInfo	Admin										
<p><b>Status:</b> DRAFT</p> <p><b>HeritageAuthority(s):</b> SAHRA ECPHRA</p> <p><b>Case Type:</b> Section 38 (8) - Statutory Comment Required</p> <p><b>Development Type:</b> Electrical Infrastructure</p> <p><b>ProposalDescription:</b> Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines. The proposed Umsobomvu 400kV Turn-in System will consist of the following: • Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS. • All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2).</p> <p><b>ApplicationDate:</b> Monday, June 27, 2022 - 10:11</p> <p><b>CaseID:</b> 18902</p> <p><b>Applicants:</b> EDF Renewables (Pty) Ltd</p> <p><b>Consultants/Experts:</b> Caroline Evans Gavin Anderson John Almond</p> <p><b>OtherReferences:</b></p> <table><thead><tr><th>Dept</th><th>CaseReference</th><th>DueDate</th><th>FinalDecision</th></tr></thead><tbody><tr><td>DFFE</td><td>TBA</td><td>27/07/2022</td><td></td></tr></tbody></table> <p><b>ReferenceList:</b></p>			Dept	CaseReference	DueDate	FinalDecision	DFFE	TBA	27/07/2022			
Dept	CaseReference	DueDate	FinalDecision									
DFFE	TBA	27/07/2022										
<b>AdditionalDocuments</b>												
1.  Umsobomvu 400kV OHL Turn-in System_Draft Scoping Report.pdf												



## 14.5 PROOF OF STAKEHOLDER AND I&AP DISTRIBUTION FOR PPP (SCOPING PHASE)

**From:** Caroline Evans  
**Sent:** Monday, 27 June 2022 10:02  
**To:** Alan Carter  
**Cc:** Louise Van Aardt  
**Subject:** NOTIFICATION | 2022-05-0003 | Umsobomvu 400kV OHL | Draft Scoping Report PPP 27th of June until the 27th of July 2022

**Bcc:** 'THLATSHWAYO@dffe.gov.za'; 'MSHUBANE@dffe.gov.za'; 'livia Letlalo'; 'MEssop@environment.gov.za'; 'HALberts@environment.gov.za'; 'zlanga@environment.gov.za'; 'Bathandwa Ncube'; 'AEssop@environment.gov.za'; 'SMambane@environment.gov.za'; 'PMakitla@environment.gov.za'; 'SLekota@environment.gov.za'; 'amaifo@environment.gov.za'; 'smunzhedzi@environment.gov.za'; 'smalete@environment.gov.za'; 'BCAdmin@environment.gov.za'; 'Nondwe.Mdekazi@dedea.gov.za'; 'Tbone.DeJongh@dedea.gov.za'; 'Mncedisi.Makosonke@dedea.gov.za'; 'Alan.Southwood@dedea.gov.za'; 'tmakaudi@ncpg.gov.za'; 'fouriel4@dw.gov.za'; 'abrahamsa@dws.gov.za'; 'fenin2@dws.gov.za'; 'mokhoantlel@dws.gov.za'; 'kgapholam@dws.gov.za'; 'hlengania@dws.gov.za'; 'VanDyKG@dws.gov.za'; 'Ntsundeni.Ravhugoni@dmre.gov.za'; 'Brenda.monnapula@dmre.gov.za'; 'Brenda.Ngebulana@dmre.gov.za'; 'Zimkita.Tyala@dmre.gov.za'; 'thokob@daff.gov.za'; 'MashuduMa@daff.gov.za'; 'mokgadi.mathekgana@energy.gov.za'; 'eddie.leach@eskom.co.za'; 'GeerinJH@eskom.co.za'; 'NicolM@eskom.co.za'; 'sdiokpala@pksdm.gov.za'; 'diokpala.sam5@gmail.com'; 'fnel@chrishanidm.gov.za'; 'fnxesi@chrishanidm.gov.za'; 'mpela@umsobomvumun.co.za'; 'tantsi@isat.gov.za'; 'mpela@umsobomvu.co.za'; 'ithatelo@salga.org.za'; 'ldaniels@salga.org.za'; 'jmaferika@salga.org.za'; 'adlanjwa@salga.org.za'; 'zmpulampula@salga.org.za'; 'zcokie@salga.org.za'; 'info@ecphra.org.za'; 'smokhanya@ecphra.org.za'; 'rtimothy@nbkb.org.za'; 'ratha.timothy@gmail.com'; 'nhiggett@sahra.org.za'; 'CouchRA@telkom.co.za'; 'viljoena@sentechn.co.za'; 'radebej@sentechn.co.za'; 'andre.barnard@voda.com.co.za'; 'krishna.chetty@mtn.com'; 'hdippenaar@cellc.co.za'; 'RLiebenberg@cellc.co.za'; 'wvermaak@cellc.co.za'; 'DVanDerWalt@cellc.co.za'; 'Joshua.Engelbrecht@cellc.co.za'; 'spvanderwalk@karoomail.co.za'; 'meyburgherasmus@gmail.com'; 'wilt@nokwi.co.za'; 'hsventer@nokwi.co.za'; 'viljoen@oddworld.co.za'; 'sep@suurfontein.co.za'; 'driespienaar@gmail.com'; 'divalphen@gmail.com'; 'middelburgdistrik1bv@gmail.com'; 'bosuurberg@gmail.com'; 'andries@ajbester.co.za'; 'bpe@intekom.co.za'; 'tp@midkaroo.co.za'; 'gsnyman@mtnloaded.co.za'; 'info@hillstonfarm.co.za'; 'clift@vodamail.co.za'; 'rbv@webmail.co.za'; 'tafelkop0@gmail.com'; 'hofmeyrboere@gmail.com'; 'StrohL@caa.co.za'; 'camu@atns.co.za'; 'GouwsJ@nra.co.za'; 'daniel.marnewick@birdlife.org.za'; 'iba@birdlife.org.za'; 'conservation@birdlife.org.za'; 'energy@birdlife.org.za'; 'advocacy@birdlife.org.za'; 'yolanf@ewt.co.za'; 'harrieta@ewt.org.za'; 'kerryn@ewt.org.za'; 'glennr@ewt.org.za'; 'lourensl@ewt.org.za'; 'wessanc@yahoo.com'; 'joubertrene@telkomsa.net'; 'tourismmid@adsactive.com'; 'joano@nda.agric.za'; 'office@wrsa.co.za'; 'ecgma@telkomsa.net'; 'vanessa@sa.wild.org'; 'jbopape@gmail.com'; 'allenlange@lantic.net'; 'rory@ecdc.co.za'; 'jonathanv@iwpower.co.za'; 'KarenC@l2b.co.za'; 'eia@g7energies.com'; 'ryan@grassmaster.co.za'; 'wallyholmes@grassmaster.co.za'; 'mario.bratz@yahoo.com'; 'Marielle.Penwarden@abo-wind.com'; 'ChristieC@ewt.org.za'; 'andreneser@icloud.com'; 'andre@neserattorneys.co.za'; 'fauntyg@vodamail.co.za'; 'transkaroo@eik.co.za'; 'paardevelei@adsactive.com'; 'n.paardevelei@gmail.com'; 'gearboxclinic@telkomsa.net';

Bcc: 'francoisvdryst@gmail.com'; 'andries@ajbester.co.za'; 'gyssteyn@worldonline.co.za';  
'neusberg@nokwi.co.za'; 'jj@adsactive.com'; 'Andries Struwig'; 'Matlhodi Mogorosi';  
'Sindiswa Dlomo'

Dear Umsobomvu Stakeholders and I&APs

Kindly note that a new application has been lodged for the Umsobomvu 400kV OHL in the vicinity of the authorised Umsobomvu WEF in the Northern Cape and Eastern Cape Provinces. The project is situated on the provincial border between Middelburg and Noupoot.

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines.

The proposed Umsobomvu 400kV Turn-in System will consist of the following:

- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2).

The Draft Scoping Report will be available from the 27<sup>th</sup> of June until the 27<sup>th</sup> of July 2022. The documentation can be accessed at:

- *Soft Copy*: CES website at <http://www.cesnet.co.za/umsobomvu-400kv-ohl-turn-in-system>
- *Hard Copy 1*: Noupoot Municipal Building (6 Shaw Street, Noupoot)
- *Hard Copy 2*: Middelburg Public Library (3 Mark Street, Middelburg)

Please do not hesitate to contact me should you have any queries.

Kind regards  
Caroline

## 14.6 CORRESPONDENCE RECEIVED: ECPHRA (SCOPING PHASE)



### PROJECT: PROPOSED UMSOBOMVU 400kV TURN-IN OVERHEAD LINE (OHL)

Enquiries: Ayanda Mncwabe-Mama  
Date: 2022/07/22  
Email: [info@ecphra.org.za](mailto:info@ecphra.org.za)

---

Applicant: Umsobomvu Windpower Pty Ltd  
Consultants: Coastal & Environmental Services Pty Ltd  
Caroline Evans  
Address: 67 African Street,  
Makhanda, 6140  
Email: [c.evans@cesnet.co.za](mailto:c.evans@cesnet.co.za)  
Contact No: (046) 622 2364

---

ECPHRA formally acknowledges the Scoping Report submitted by *Coastal & Environmental Services* as per **Section 38** of the National Heritage Resources Act (NHRA) of 1999.

#### Recommendations by the APM Committee:

- The application triggers Section 38(8) of the NHRA therefore an integrated HIA (Heritage Impact Assessment) inclusive of a detailed PIA (Paleontological Impact Assessment) & AIA (Archaeological Impact Assessment) must be submitted.

Best Regards



\_\_\_\_\_  
ECPHRA Acting Manager:

25 July 2022

\_\_\_\_\_  
Date:

East London

\_\_\_\_\_  
Location:

## 14.7 CORRESPONDENCE RECEIVED: DFFE BIODIVERSITY CONSERVATION (SCOPING PHASE)



**forestry, fisheries  
& the environment**

Department:  
Forestry, Fisheries and the Environment  
**REPUBLIC OF SOUTH AFRICA**

Private Bag X 447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, Tel: +27 12 399 9000, Fax: +27 86 625 1042

**Reference:** 14/12/16/3/3/2/730/2

**Enquiries:** Ms. Portia Makitla

**Telephone:** 012 399 9411 **E-mail:** [pmakitla@dfre.gov.za](mailto:pmakitla@dfre.gov.za)

COASTAL AND ENVIRONMENTAL SERVICES (PTY) LTD  
PO Box 8145  
Nahoon  
**EAST LONDON**  
5241

Telephono Number: (+27) 46 622 2364  
Email Address: [c.evans@cesnet.co.za](mailto:c.evans@cesnet.co.za)

**PER E-MAIL**

Dear Ms Evans

### **COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED CONSTRUCTION OF A 400KV TURN-IN SYSTEM AT THE KORUSON SUBSTATION IN THE NORTHERN CAPE AND EASTERN CAPE PROVINCES**

The Directorate: Biodiversity Conservation has reviewed and evaluated the report and does not have any objections to the Draft Scoping Report & Plan of Study provided that all relevant National and Provincial biodiversity guidelines/regulations will be considered in the final report. The final report must include the Screening tool results.

Please also note that any development within very highly sensitive biodiversity area; where residual impacts will result with very high significant impacts rating will not be supported. You are further required to assess the cumulative impacts for similar developments in proximity with the proposed site (if any).

In conclusion, the Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; [BCAdmin@dfre.gov.za](mailto:BCAdmin@dfre.gov.za) for the attention of Mr. Seoka Lekota.

Yours faithfully

**Mr Seoka Lekota**  
**Control Biodiversity Officer Grade B: Biodiversity Conservation**  
**Department of Forestry, Fisheries & the Environment**  
**Date: 26/07/2022**







## 14.8 CORRESPONDENCE RECEIVED: DFFE (SCOPING PHASE)



### forestry, fisheries & the environment

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA

Private Bag X 447- PRETORIA 0001- Environment House 473 Steve Biko Road, Arcadia- PRETORIA

DFFE Reference: 14/12/16/3/3/2/2170

Enquiries: Ms Mathodi Mogorosi

Telephone: (012) 399 9388 E-mail: [MMogorosi@dffe.gov.za](mailto:MMogorosi@dffe.gov.za)

Dr Alan Carter  
Coastal and Environmental Services (Pty) Ltd  
PO Box 8145  
Berea  
EAST LONDON  
5214

Telephone Number: (043) 726 7809  
Email Address: [a.carter@cesnet.co.za](mailto:a.carter@cesnet.co.za)

PER MAIL / E-MAIL

Dear Dr Carter

**COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED UMSOBOMVU 400KV TURN-IN OVERHEAD LINES (OHL) NEAR MIDDELBURG AND NOUPOORT WITHIN THE INXUBA YETHEMBA LOCAL MUNICIPALITY AND THE UMSOBOMVU LOCAL MUNICIPALITY IN THE EASTERN CAPE AND NORTHERN CAPE PROVINCES**

The Application for Environmental Authorisation and Draft Scoping Report (SR) dated June 2022 and received by the Department on 24 June 2022, refer.

This letter serves to inform you that the following information must be included to the Final Scoping Report:

(a) Listed Activities

- Please ensure that all relevant listed activities are applied for, are specific and can be linked to the development activity or infrastructure (including thresholds) as described in the project description. Only activities (and sub-activities) applicable to the development must be applied for and assessed. When including activities in the application form and Scoping Report, take note of the word OR in between the activities (sub-activities). Furthermore, kindly ensure that the latest listed activities, as amended in 2021, are applied for.
- It is imperative that the relevant authorities are continuously involved throughout the environmental impact assessment process, as the development property possibly falls within geographically designated areas in terms of Listing Notice 3 Activities. Written comments must be obtained from the relevant authorities (or proof of consultation if no comments were received) and submitted to this Department. In addition, a graphical representation of the proposed development within the respective geographical areas must be provided. Please also ensure that the potential impacts on the affected Critical Biodiversity Areas are fully assessed in the final SR.
- If the activities applied for in the application form differ from those mentioned in the final SR, an amended application form must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link <https://www.environment.gov.za/documents/forms>.

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- Please ensure that the contact details (including a contact person) for the Inxuba Yethemba Local Municipality in the application form.

**(b) Layout & Sensitivity Maps**

- Please provide a layout map which indicates the following:
- The 600m wide corridors for the proposed Umsobomvu 400kV overhead powerlines with all supporting associated infrastructure overlain by the sensitivity map;
- The proposed Umsobomvu 400kV overhead powerlines in relation to the Umsobomvu Wind Energy Facility and the Coleskop Wind Energy Facility, overlain by the sensitivity map;
- All supporting onsite infrastructure e.g. roads (existing and proposed);
- The location of sensitive environmental features on site e.g., CBAs, heritage sites, wetlands, drainage lines etc. that will be affected;
- Buffer areas; and
- All "no-go" areas.
- The above map must be overlain with a sensitivity map and a cumulative map which shows neighbouring renewable energy developments and existing grid infrastructure.
- Google maps will not be accepted.

**(c) Public Participation Process**

- Please ensure that all issues raised, and comments received on the draft SR from registered I&APs and organs of state which have jurisdiction (including this Department's Biodiversity Section: [BCAdmin@environment.gov.za](mailto:BCAdmin@environment.gov.za)) in respect of the proposed activity are adequately addressed in the Final SR. Proof of correspondence with the various stakeholders must be included in the Final SR. Should you be unable to obtain comments, proof must be submitted to the Department of the attempts that were made to obtain comments. The Public Participation Process must be conducted in terms of the approved public participation plan and Regulation 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended.
- A comments and response trail report (C&R) must be submitted with the final SR. The C&R report must incorporate all historical comments (pre and post submission of the draft SR) for this development. The C&R report must be a separate document from the main report and the format must be in the table format which reflects the details of the I&APs and date of comments received, actual comments received, and response provided. Please ensure that comments made by I&APs are comprehensively captured (copy verbatim if required) and responded to clearly and fully. Please note that a response such as "Noted" is not regarded as an adequate response to I&AP's comments.

**(d) Specialist Assessments**

- Specialist studies to be conducted must provide a detailed description of their methodology, as well as indicate the locations and descriptions of turbine positions, and all other associated infrastructures that they have assessed and are recommending for authorisations.
- The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.
- Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defensible reasons; and where necessary, include further expertise advice.
- It is further brought to your attention that Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols"), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal

DFFE Reference: 14/12/16/3/2/2170

Comments on the draft Scoping Report for the proposed Umsobomvu 400kV turn-in overhead lines (OHL) within the Inxuba Yethemba Local Municipality and the Umsobomvu Local Municipality in the Eastern Cape and Northern Cape Provinces

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species), have come into effect. Please note that specialist assessments must be conducted in accordance with these protocols. Please note further that the protocols require the specialists' to be registered with SACNASP.

- Please include a table in the report, summarising the specialist studies required by the Department's Screening Tool, a column indicating whether these studies were conducted or not, and a column with motivation for any studies not conducted. Please note that if any of the specialists' studies and requirements/protocols recommended in the Department's Screening Tool are not commissioned, motivation for such must be provided in the report per the requirements of the Protocols.
- The draft SR indicates that the Screening Tool identified the potential need for an Agricultural Potential assessment (rated as high sensitivity), however this study has not been included in the specialist studies for the EIA phase. Motivation for not undertaking it has not been provided in accordance with the protocols. Please clarify this in the final SR.
- The animal species theme is rated as high sensitivity in the Department's Screening Tool which indicates a need for assessment. However, the Ecological Impact Assessment that forms part of the specialist studies for the EIA phase mainly focuses on impacts on vegetation. As the powerlines are proposed within Critical Biodiversity Areas, it seems logical for the biodiversity assessment to include assessment of impacts on the fauna within the affected environment. Motivation for not undertaking it has not been provided in accordance with the protocols. Please clarify this in the final SR.

**(e) Cumulative Assessment**

- Should there be any other similar projects within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following:
  - Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land.
  - Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.
  - The cumulative impacts significance rating must also inform the need and desirability of the proposed development.
  - A cumulative impact environmental statement on whether the proposed development must proceed.

**General**

You are further reminded to comply with Regulation 21(1) of the NEMA EIA Regulations 2014, as amended, which states that:

*"If S&EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority"*

You are further reminded that the final SR to be submitted to this Department must comply with all the requirements in terms of the scope of assessment and content of Scoping reports in accordance with Appendix 2 and Regulation 21(1) of the EIA Regulations 2014, as amended.

Further note that in terms of Regulation 45 of the EIA Regulations 2014, as amended, this application will lapse if the applicant fails to meet any of the timeframes prescribed in terms of these Regulations, unless an extension has been granted in terms of Regulation 3(7).

OFFE Reference: 14/12/16/3/3/2/2170

Comments on the draft Scoping Report for the proposed Umsobomvu 400kV turn-in overhead lines (OHL) within the Inxuba Yethemba Local Municipality and the Umsobomvu Local Municipality in the Eastern Cape and Northern Cape Provinces

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You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.

Yours sincerely



**Ms Millicent Solomons**  
Acting Chief Director: Integrated Environmental Authorisations  
Department of Forestry, Fisheries and the Environment  
Letter signed by: Ms Sindiswa Dlomo  
Designation: Deputy Director: National Infrastructure Projects  
Date: 25/07/2022

cc:	N Dyasi	Umsobomvu Wind Power (Pty) Ltd	Email: <a href="mailto:Nomajama.Dyasi@edf-re.co.za">Nomajama.Dyasi@edf-re.co.za</a> / <a href="mailto:Sheldon.vandrey@edf-re.co.za">Sheldon.vandrey@edf-re.co.za</a>
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## 15 APPENDIX D: COMMENTS AND RESPONSE REPORT

Comments	Stakeholder/I&AP	Response
<b>EIA PHASE COMMENTS</b>		
<i>To be added post PPP</i>		
<b>SCOPING PHASE COMMENTS</b>		
<p>PROJECT: PROPOSED UMSOBOMVU 400kV TURN-IN OVERHEAD LINE (OHL)</p> <p>ECPHRA formally acknowledges the Scoping Report submitted by Coastal &amp; Environmental Services as per Section 38 of the National Heritage Resources Act (NHRA) of 1999.</p> <p>Recommendations by the APM Committee:</p> <ul style="list-style-type: none"> <li>The application triggers Section 38(8) of the NHRA therefore an integrated HIA (Heritage Impact Assessment) inclusive of a detailed PIA (Paleontological Impact Assessment) &amp; AIA (Archaeological Impact Assessment) must be submitted.</li> </ul>	<p><b>Eastern Cape Provincial Heritage Resource Authority (ECPHRA)</b></p> <p><b>Ayanda Mncwabe-Mama</b></p> <p><b>22/07/2022</b></p>	<p>Thank you for your comments on the proposed Umsobomvu 400kV Turn-in OHL Draft Scoping Report.</p> <p>CES hereby confirms that both a Paleontological and Archaeological Impact Assessment report will be submitted as part of the EIA-phase of this project.</p> <p>The reports, along with the EIA, will be submitted to ECPHRA for further comments.</p> <p>We appreciate your engagement as a key stakeholder on this project.</p>
<p>COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED CONSTRUCTION OF A 400KV TURN-IN SYSTEM AT THE KORUSON SUBSTATION IN THE NORTHERN CAPE AND EASTERN CAPE PROVINCES</p> <p>The Directorate: Biodiversity Conservation has reviewed and evaluated the report and does not have any objections to the Draft Scoping Report &amp; Plan of Study provided that all relevant National and Provincial biodiversity guidelines/regulations will be considered in the final report. The final report must include the Screening tool results.</p>	<p><b>Department of Forestry, Fisheries and the Environment (DFFE): Biodiversity Conservation</b></p> <p><b>Seoka Lekota</b></p> <p><b>26/07/2022</b></p>	<p>Thank you for your comments on the proposed Umsobomvu 400kV Turn-on OHL Draft Scoping Report.</p> <p>Please note that the Final Scoping Report has been updated to include the Screening Tool Results (please see section 9.3 of this report).</p> <p>The report has also included a cumulative impact assessment methodology which outlines the assessment which each specialist and the EAP will undertake as part of the assessment (EIA) phase of this project (please see section 6.3 and 6.4 of this report).</p>

Comments	Stakeholder/I&AP	Response
<p>Please also note that any development within very highly sensitive biodiversity area; where residual impacts will result with very high significant impacts rating will not be supported. You are further required to assess the cumulative impacts for similar developments in proximity with the proposed site (if any).</p> <p>In conclusion, the Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email: <a href="mailto:BCAdmin@dffe.gov.za">BCAdmin@dffe.gov.za</a> for the attention of Mr Seoka Lekota.</p>		<p>The EIA, along with all specialist reports and other appendices, will be submitted to DFFE Biodiversity Conservation for further comments.</p> <p>We appreciate your engagement as a key stakeholder on this project.</p>
<p>COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED UMSOBOMVU 400KV TURN-IN OVERHEAD LINES (OHL) NEAR MIDDELBURG AND NOUPOORT WITHIN THE INXUBA YETHEMBA LOCAL MUNICIPALITY AND THE UMSOBOMVU LOCAL MUNICIPALITY IN THE EASTERN CAPE AND NORTHERN CAPE PROVINCES</p> <p>This letter serves to inform you that the following information must be included to the Final Scoping Report:</p> <p>(b) Listed Activities</p> <ul style="list-style-type: none"> <li>Please ensure that all relevant listed activities are applied for, are specific and can be linked to the development activity or infrastructure (including thresholds) as described in the project description. Only activities (and sub-activities) applicable to the development must be applied for and assessed. When including activities in the application form and Scoping Report, take note of the word OR in between the activities (sub-activities). Furthermore, kindly ensure that the latest listed activities, as amended in 2021, are applied for.</li> </ul>	<p><b>Department of Forestry, Fisheries and the Environment (DFFE): Biodiversity Conservation</b></p> <p><b>Matlhodi Mogorosi</b></p> <p><b>25/07/2022</b></p>	<p>Thank you for your comments on the proposed Umsobomvu 400kV Turn-on OHL Draft Scoping Report.</p> <p>(a) Listed Activities</p> <ul style="list-style-type: none"> <li>The EAP hereby confirms that listed activities applied for are relevant and specific to the proposed development. Sub-activities have been clearly noted in the application form and irrelevant components (e.g. exclusions) have been crossed out.</li> <li>The EAP hereby confirms that all relevant stakeholders have and will continue to be engaged regarding the proposed development.</li> <li>The EAP hereby confirms that the application form and scoping report listed activities are aligned. An updated application form will therefore not need to be submitted with the submission of the Final Scoping Report.</li> <li>The EAP hereby confirms that both local municipalities, inclusive of contact person and contact details were included in the application form as submitted with the Draft Scoping Report.</li> </ul>

Comments	Stakeholder/I&AP	Response
<ul style="list-style-type: none"> <li>It is imperative that the relevant authorities are continuously involved throughout the environmental impact assessment process, as the development property possibly falls within geographically designated areas in terms of Listing Notice 3 Activities. Written comments must be obtained from the relevant authorities (or proof of consultation if no comments were received) and submitted to this Department. In addition, a graphical representation of the proposed development within the respective geographical areas must be provided. Please also ensure that the potential impacts on the affected Critical Biodiversity Areas are fully assessed in the final SR.</li> <li>If the activities applied for in the application form differ from those mentioned in the final SR, an amended application form must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link <a href="https://www.environment.gov.za/documents/forms">https://www.environment.gov.za/documents/forms</a>.</li> <li>Please ensure that the contact details (including a contact person) for the Inxuba Yethemba Local Municipality in the application form.</li> </ul> <p>(c) Layout and Sensitivity Maps</p> <ul style="list-style-type: none"> <li>Please provide a layout map which indicates the following:</li> <li>The 600m wide corridors for the proposed Umsobomvu 400kV overhead powerlines with all supporting associated infrastructure overlain by the sensitivity map;</li> <li>The proposed Umsobomvu 400kV overhead powerlines in relation to the Umsobomvu Wind Energy Facility and</li> </ul>		<p>(b) Layout and Sensitivity Maps</p> <ul style="list-style-type: none"> <li>A preliminary sensitivity and cumulative map has been included in this Final Scoping Report (please see section 6.5 of the Final Scoping Report). Please note that the Scoping Sensitivity map is based on desktop data only and that a sensitivity mapping process and a cumulative impact assessment will be undertaken (as per section 2.4 of this report) in the EIA phase of the project. These processes will include specialist input as required.</li> </ul> <p>(c) Public Participation Process</p> <ul style="list-style-type: none"> <li>Please kindly see Appendix C of this report for all PPP proofs related to the distribution of the Draft Scoping Report to relevant Stakeholders and I&amp;APs. It should be noted that the original Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/1/730) database, which was developed in 2016 and updated from then, until now (2022), due to a number of amendments and applications for ancillary infrastructure, has been used for this application. It is therefore extensive and is considered a cumulative Stakeholder and I&amp;AP database.</li> </ul> <p>(d) Specialist Assessments</p> <ul style="list-style-type: none"> <li>The specialist studies will include a detailed description of their methodology for the proposed OHL. Please note that as per the application form and this Scoping Report no associated infrastructure will be required as this application will be used as part of a greater project (Umsobomvu WEF) in which existing roads will be used.</li> </ul>

Comments	Stakeholder/I&AP	Response
<p>the Coleskop Wind Energy Facility, overlain by the sensitivity map;</p> <ul style="list-style-type: none"> <li>• All supporting onsite infrastructure e.g. roads (existing and proposed);</li> <li>• The location of sensitive environmental features on site e.g., CBAs, heritage sites, wetlands, drainage lines etc. that will be affected;</li> <li>• Buffer areas; and</li> <li>• All “no-go” areas.</li> <li>• The above map must be overlain with a sensitivity map and a cumulative map which shows neighbouring renewable energy developments and existing grid infrastructure.</li> <li>• Google maps will not be accepted.</li> </ul> <p>(d) Public Participation Process</p> <ul style="list-style-type: none"> <li>• Please ensure that all issues raised, and comments received on the draft SR from registered I&amp;APs and organs of state which have jurisdiction (including this Department’s Biodiversity Section: <a href="mailto:BCAdmin@environment.gov.za">BCAdmin@environment.gov.za</a>) in respect of the proposed activity are adequately addressed in the Final SR. Proof of correspondence with the various stakeholders must be included in the Final SR.</li> <li>• Should you be unable to obtain comments, proof must be submitted to the Department of the attempts that were made to obtain comments. The Public Participation Process must be conducted in terms of the approved public participation plan and Regulation 39, 40, 41, 42, 43 &amp; 44 of the EIA Regulations 2014, as amended.</li> <li>• A comments and response trail report (C&amp;R) must be submitted with the final SR. The C&amp;R report must</li> </ul>		<ul style="list-style-type: none"> <li>• The specialist studies will include a detailed description of all limitations to their studies. All specialist studies have been conducted in the right season.</li> <li>• The EAP hereby confirms that should the specialists specify contradicting recommendations, the EAP will clearly indicate the most reasonable recommendation and substantiate this with defensible reasons. The EAP also confirms that further expertise will be sought should this be necessary.</li> <li>• The EAP hereby confirms that specialist assessments will be undertaken in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species).</li> <li>• Please kindly see section 9.3 of this report which summarises the Department’s Screening Tool, including the rationale behind each identified specialist assessment to be undertaken as part of the EIA phase of this project.</li> <li>• Please note, that as per section 9.3 of this report, the agricultural rating of high is isolated to a plantation which runs across a small section of the proposed OHL. The developer and landowner have an agreement that the placement of the OHL pylons must avoid this section. The high sensitive</li> </ul>

Comments	Stakeholder/I&AP	Response
<p>incorporate all historical comments (pre and post submission of the draft SR) for this development. The C&amp;R report must be a separate document from the main report and the format must be in the table format which reflects the details of the I&amp;APs and date of comments received, actual comments received, and response provided. Please ensure that comments made by I&amp;APs are comprehensively captured (copy verbatim if required) and responded to clearly and fully. Please note that a response such as “Noted” is not regarded as an adequate response to I&amp;AP’s comments.</p> <p>(e) Specialist Assessments</p> <ul style="list-style-type: none"> <li>Specialist studies to be conducted must provide a detailed description of their methodology, as well as indicate the locations and descriptions of turbine positions, and all other associated infrastructures that they have assessed and are recommending for authorisations.</li> <li>The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.</li> <li>Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defensible reasons; and where necessary, include further expert advice.</li> <li>It is further brought to your attention that Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated</li> </ul>		<p>section is therefore a no-go for pylon placement and will therefore not be affected by the development. A full specialist assessment for the remaining of the line is therefore deemed unnecessary.</p> <ul style="list-style-type: none"> <li>The animal species theme is rated as high due to the presence of two protected and at-risk avifaunal species. As per section 9.3 of this report an Avifaunal Impact Assessment (9.3.1) will be undertaken as part of the EIA phase of this application. The ecological study, as per 9.3.2 will be undertaken to determine the CBA, plant and other faunal risks and impacts.</li> </ul> <p>(e) Cumulative Assessment</p> <ul style="list-style-type: none"> <li>Please see Chapter 6 “manner in which the environment may be affected” for the cumulative impact methodology (to be followed for the EIA phase) and the cumulative impact statement (section 6.4). The full cumulative impact assessment will be undertaken as part of the EIA phase by both the EAP and the Specialists.</li> </ul> <p>The EAP hereby confirms that the Final Scoping Report is submitted in accordance with the prescribed timelines as quoted below:</p> <p><i>“If S&amp;EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority”</i></p>



Comments	Stakeholder/I&AP	Response
<p>in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species), have come into effect. Please note that specialist assessments must be conducted in accordance with these protocols. Please note further that the protocols require the specialists’ to be registered with SACNASP.</p> <ul style="list-style-type: none"> <li>• Please include a table in the report, summarising the specialist studies required by the Department’s Screening Tool, a column indicating whether these studies were conducted or not, and a column with motivation for any studies not conducted. Please note that if any of the specialists’ studies and requirements/protocols recommended in the Department’s Screening Tool are not commissioned, motivation for such must be provided in the report per the requirements of the Protocols.</li> <li>• The draft SR indicates that the Screening Tool identified the potential need for an Agricultural Potential assessment (rated as high sensitivity), however this study has not been included in the specialist studies for the EIA phase. Motivation for not undertaking it has not been provided in accordance with the protocols. Please clarify this in the final SR.</li> <li>• The animal species theme is rated as high sensitivity in the Department’s Screening Tool which indicates a need for assessment. However; the Ecological Impact Assessment that forms part of the specialist studies for the EIA phase mainly focuses on impacts on vegetation. As the powerlines are proposed within Critical Biodiversity Areas, it seems logical for the biodiversity assessment to include assessment of impacts on the fauna within the affected environment. Motivation for</li> </ul>		<p>We appreciate your engagement as the competent authority and key stakeholder on this project.</p>

Comments	Stakeholder/I&AP	Response
<p>not undertaking it has not been provided in accordance with the protocols. Please clarify this in the final SR.</p> <p>(f) Cumulative Assessment</p> <ul style="list-style-type: none"> <li>• Should there be any other similar projects within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following: <ul style="list-style-type: none"> <li>○ Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land.</li> <li>○ Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.</li> <li>○ The cumulative impacts significance rating must also inform the need and desirability of the proposed development.</li> <li>○ A cumulative impact environmental statement on whether the proposed development must proceed.</li> </ul> </li> </ul> <p>General</p> <p>You are further reminded to comply with Regulation 21(1) of the NEMA EIA Regulations 2014, as amended, which states that:</p> <p><i>"If S&amp;EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at</i></p>		

Comments	Stakeholder/I&AP	Response
<p><i>least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority”</i></p> <p>You are further reminded that the final SR to be submitted to this Department must comply with all the requirements in terms of the scope of assessment and content of Scoping reports in accordance with Appendix 2 and Regulation 21(1) of the EIA Regulations 2014, as amended.</p> <p>Further note that in terms of Regulation 45 of the EIA Regulations 2014, as amended, this application will lapse if the applicant fails to meet any of the timeframes prescribed in terms of these Regulations, unless an extension has been granted in terms of Regulation 3(7).</p> <p>You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.</p>		

## 16 APPENDIX E: IMPACTS TABLES

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### 16.1 GENERAL IMPACTS TABLE

### 16.2 SPECIALIST IMPACTS TABLE

## **17 APPENDIX F: SPECIALIST REPORTS**

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**17.1 AGRICULTURAL IMPACT ASSESSMENT**

**17.2 AVIFAUNAL IMPACT ASSESSMENT**

**17.3 ECOLOGICAL IMPACT ASSESSMENT**

**17.4 HERITAGE IMPACT ASSESSMENT**

**17.5 PALAEOLOGY IMPACT ASSESSMENT**



## **18 APPENDIX G: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)**

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### **18.1 GENERIC EMPR | OHLs**

### **18.2 NATIONAL SCREENING TOOL**