Draft Social Impact Assessment for the Proposed 14km Deviation of the 1x 400KV Pluto-Mahikeng Powerline, JB Marks and Mahikeng Local Municipalities, North West Province, South Africa

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TERMS AND ACRONYMS

Term/acronym	Description
AC	Alternating Current
Applicant	Eskom Holdings SOC Ltd and its subsidiary, the National Transmission Company South Africa
BA	Basic Assessment
DC	Direct Current
DFFE	Department of Forestry, Fisheries and the Environment
DoE	Department of Energy
DoEL	Department of Employment and Labour
EA	Environmental Authorisation
EAP	Vhubvo Consultancy cc
EIA	Environmental Impact Assessment
EIA Regulations	Environmental Impact Assessment Regulations, 2014 (as amended)
EMPr	Environmental Management Programme
EPC	Engineering, Procurement and Construction
ha	Hectare
HDI	Human Development Index
HIV/AIDS	The human immunodeficiency virus that causes acquired immunodeficiency syndrome
I&AP	Interested and affected party/person
IAIAsa	International Association for Impact Assessment South Africa
IDP	Integrated Development Plan
LED	Local Economic Development
MTS	Main transmission substation
MW	Megawatt
MV	Medium Voltage
MVA	Megavolt-amperes
NEMA	National Environmental Management Act 107 of 1998
NTCSA	National Transmission Company South Africa, a subsidiary of Eskom Holdings SOC Ltd
NWA	National Water Act 36 of 1998
Proposed project/ development	Proposed 14km Deviation of the 1x 400KV Pluto-Mahikeng Powerline, JB Marks and Mahikeng Local Municipalities, North West Province, South Africa
S&EIR	Scoping and Environmental Impact Reporting
SDF	Spatial Development Framework
SEZ	Special Economic Zone
SIA	Social Impact Assessment
Stats SA	Statistics South Africa
WUL	Water Use Licence
WULA	Water Use Licence Application

SPECIALIST REPORT CHECKLIST

Appendix 6 of the EIA Regulations outlines minimum information that must be provided in a specialist report. These requirements, and the sections of this SIA in which they are addressed, are summarised in Table 1:

Table 1: EIA Regulations, Appendix 6 SIA required content

EIA Regulations Requirement Appendix 6 item (1)		**Relevant section**
(a)	details of— (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;	Section 1 and ANNEXURE 1
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 1 and ANNEXURE 2
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Sections 1, 2 and 3
(cA)	an indication of the quality and age of base data used for the specialist report;	Sections 6.1, 6.2 and 6.7
(cB)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Sections 8.3 – 8.9 and 9.4 – 9.6
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Sections 6.1 and 6.7 *(desktop-based assessment; no field investigation undertaken)*
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Sections 6 and 9.1
(f)	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Sections 4.3, 4.5, 8.7, 9.2 – 9.5; Figure 1 and Table 2
(g)	an identification of any areas to be avoided, including buffers;	Sections 9.3, 9.4.5, 9.4.6 and 10.2; Table 11
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Figure 1 and see sensitivity overlay map in the BA report
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 6.7
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 9.2 – 9.6 and 10.1
(k)	any mitigation measures for inclusion in the EMPr;	Sections 9.4 – 9.6, 10.2 and Table 11
(l)	any conditions for inclusion in the environmental authorisation;	Sections 10.1 and 10.2; Table 11
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 10.2 and Table 11
(n)	a reasoned opinion—	Section 10.1
	(i) whether the proposed activity, activities or portions thereof should be authorised;	Section 10.1
	(iA) regarding the acceptability of the proposed activity or activities; and	Sections 9.4 – 9.6, 10.2 and Table 11

	(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and in the case of a closure activity, the closure plan;	Sections 6.2 and 8.9
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 8.9
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	N/A
(q)	any other information requested by the competent authority.	N/A
(2)	Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	Section 1 and ANNEXURE 1

TABLE OF CONTENTS

Terms and acronyms i
SPECIALIST REPORT CHECKLIST ii
Table of Contents iv
List of Tables vi
List of Figures vii
1. BACKGROUND AND INTRODUCTION 8
2. STUDY OBJECTIVES 9
3. TERMS OF REFERENCE 9
4. PROJECT DESCRIPTION 10
4.1 Overview of the broader authorised project 10
4.2 Nature of the current application 10
4.3 Location of the proposed deviation 11
4.4 Main infrastructure components 13
4.5 Ancillary works and site access 13
4.6 Project development cycle 14
4.6.1 Construction 14
4.6.2 Operation and maintenance 14
4.6.3 Decommissioning 14
4.7 Employment 14
4.4.1 Construction phase 14
4.4.2 Operational phase 15
4.8 Key implications for the SIA 15
5. STUDY AREA 16
5.1 Regional study area overview 16
5.1.1 Dr Kenneth Kaunda District 16
5.1.2 Ngaka Modiri Molema District 17
5.2 Local study area 18
5.2.1 JB Marks Local Municipality 18
5.2.1 Mahikeng Local Municipality 19
6 STUDY METHODOLOGY 19
6.1 Data gathering 20
6.2 Comments from affected landowners 21
6.3 Data analysis 22
6.4 Impact assessment 22

6.5 Consideration of applicable regulatory requirements 22
6.6 Guideline on Need and Desirability, Department of Environmental Affairs 22
6.7 Study limitations 23
7 POLICY, ADMINISTRATIVE AND LEGAL FRAMEWORK 23
7.1 Constitution of the Republic of South Africa, 1996 23
7.2 National Environment Management Act 107 of 1998 24
7.3 Standard for the Development and Expansion of Electricity Transmission and Distribution Power Line Infrastructure 24
7.4 National Water Act 36 of 1998 25
7.5 National Heritage Resources Act of 1999 (NHRA) 25
7.6 Civil Aviation Act 13 of 2009 25
7.7 National Development Plan 26
7.8 National Infrastructure Plan 2050 26
7.9 National Integrated Resource Plan, 2025 27
7.10 North West Strategic Planning Documents 27
7.6.1 North West Office of the Premier Strategic Plan 2025-2030 27
7.6.2 North West Department of Public Works and Roads Strategic Plan 2025-2030 27
7.6.3 North West DEDECT Strategic Plan 2025-2030 28
7.11 North West Province Spatial Development Framework 28
7.12 Municipal Integrated Development Plans 29
7.12.1 Dr Kenneth Kaunda District Municipality 29
7.10. 2 Ngaka Modiri Molema District 29
7.12.2 JB Marks Local Municipality 30
7.12.3 Mahikeng Local Municipality 30
8 SOCIO-ECONOMIC CONTEXT AND BASELINE DATA 31
8.1 Institutional arrangements 31
8.2 Population, race and gender profile 31
8.3 Housing and living conditions 32
8.4 Education and employment levels 34
8.5 Safety and security 35
8.6 Access to medical facilities 36
8.7 Land use and human settlements 37
8.8 Land claims status 39
8.9 Comments received from I&APs 39
9 SOCIO-ECONOMIC IMPACT ASSESSMENT 39
9.1 Impact assessment methodology 39

9.2 Assessment of compatibility with the policy and planning framework 41
9.3 Assessment of alternatives 42
9.3.1 No-go alternative 42
9.3.2 Alignment alternatives 42
9.3.3 Technological and design alternatives 42
9.3.4 Servitude width alternatives 43
9.4 Construction phase socio-economic impacts 43
9.4.1 Employment, skills development, procurement and business opportunities 43
9.4.2 Increased demand for low-cost housing and municipal services 44
9.4.3 Strain on community health and safety services 44
9.4.4 Influx of jobseekers 44
9.4.5 Agricultural operations, land access and property-related impacts 44
9.4.6 Construction disturbance, traffic, fire risk and communication 44
9.5 Operational phase socio-economic impacts 45
9.5.1 Employment, skills development, procurement and business opportunities 45
9.5.2 Strengthening energy supply 45
9.6 Potential cumulative impacts 45
9.6.1 Employment, skills and economic opportunities 46
9.6.2 Influx, housing and demand for municipal services 46
9.6.3 Community health, safety and security 46
9.6.4 Overall cumulative impact conclusion 47
9.7 Impact assessment rating 48
10 CONCLUSION AND RECOMMENDATIONS 51
10.1 Conclusion 51
10.2 Recommendations 53
11 REFERENCES 56
ANNEXURE 1 58
ANNEXURE 2 59

LIST OF TABLES

Table 1: EIA Regulations, Appendix 6 SIA required content ii
Table 2: Farm portions and affected landowners 11
Table 3: Institutional arrangements (municipalities within the proposed development area) 31
Table 4: Population demographics data 31
Table 5: Housing and living conditions 32
Table 6: Education levels progress since the last Census 34
Table 7: Labour force characteristics (Q4:2025) 35

Table 8:Weights assigned to each attribute 40
Table 9: Potential social impacts (construction, operational and decommissioning phases 48
Table 10: Summary of potential socio-economic impacts and their significance 51
Table 11: Generic EMPr Part C - Site-specific impact management outcomes and actions 54
Table 12: Consideration of need and desirability 59

LIST OF FIGURES

Figure 1: Locality map 12
Figure 2: 400kV Tower examples 13
Figure 3: Regional locality 16
Figure 4: NDP approach to change 26

1. BACKGROUND AND INTRODUCTION

This report presents a Social Impact Assessment (SIA) for the proposed deviation of the 1 x 400 kV Pluto-Mahikeng Powerline within JB Marks Local Municipality under the Dr Kenneth Kaunda District Municipality, and Mahikeng Local Municipality, Ngaka Modiri Molema District, North West Province, South Africa. The project is being undertaken by the National Transmission Company South Africa (NTCSA), a subsidiary of Eskom Holdings SOC Ltd (referred to hereafter as NTCSA or the Applicant).

The Applicant is responsible for ensuring a reliable and efficient electricity transmission network across South Africa. As part of strengthening the electricity network in the North West Province, NTCSA is proposing the development of transmission infrastructure between Pluto Main Transmission Substation (MTS) and the proposed Mahikeng MTS.

The broader Pluto-Mahikeng project was previously assessed as part of the environmental impact assessment process for the proposed Mahikeng MTS and 1 x 400 kV Pluto-Mahikeng powerline extending across Merafong, Ditsobotla, Ramotshere Moiloa, JB Marks and Mahikeng Local Municipalities. A SIA for the wider project was compiled in 2018, alongside other specialist studies undertaken for the original Environmental Impact Assessment (EIA) process.[1]

The project was subsequently granted Environmental Authorisation on 4 February 2019 under authorisation reference 14/12/16/3/3/2/1051.[2] The validity period of the 2019 Environmental Authorisation was extended, and that the amended EA now lapses on 4 February 2029.[3] The extension amendment was required as funding to execute the project was not available at the time, and negotiations and servitude acquisition only commenced in 2023. As such, the project has a long planning history and land access and servitude-related implementation constraints have been important considerations in the evolution of the route.

The Environmental Authorisation approved the preferred alternatives for the Mahikeng MT and the 1 x 400 kV Pluto-Mahikeng powerline, subject to various conditions. Importantly, the authorisation makes provision that changes to, or deviations from, the approved project description may not be effected unless approved in writing by the competent authority. The current application therefore arises because a deviation from the approved route is now proposed and must be assessed and authorised on its own merits.

The proposed deviation affects a relatively focused group of farm properties, including portions of Nooitgedacht 69, Goedgedacht 27, Klipgat 18, Buchansvale 61, Illmasdale 70 and Bauwel 128. Unlike the earlier project-wide assessment, the present SIA is therefore concerned primarily with a shorter, site-specific deviation corridor in a working agricultural landscape.

NTCSA has appointed Vhubvo Consultancy cc (Vhubvo) as the independent Environmental Assessment Practitioner (EAP) to undertake this process. Vhubvo has appointed Solarys (Pty) Ltd (Solarys) to undertake the SIA for the proposed deviation. The purpose of the SIA is to provide a focused understanding of the social environment within and surrounding the proposed deviation area, and to identify the potential social and socio-economic impacts that may arise during the construction, operation and maintenance of the deviation. Particular emphasis is placed on directly affected landowners and occupiers, agricultural land uses, access arrangements, property management considerations, safety-related risks, and the broader planning and

[1] Turnscapes Travel and Tourism (Pty) Ltd, Social Impact Assessment for the Proposed Construction of Mahikeng Substation and a 275kV Powerline from the Pluto Substation to Mahikeng within the Dr Kenneth Kaunda, West Rand, Ngaka Modiri Molema District Municipalities, Gauteng and North-West Province, 2018.

[2] Department of Environmental Affairs (DEA), Environmental Authorisation for the Proposed Mahikeng Main Transmission Subtation and 1x400kV Pluto-Mahikeng Powerline within the Merafong, Ditsobotla, Ramotshere Moiloa, JB Marks and Mahikeng Local Municipalities in North West and Gauteng Provinces, Ref. 14/12/16/3/3/2/1051, 4 February 2019.

[3] Department of Forestry, Fisheries and the Environment (DFFE), Amendment of the Environmental Authorisation Issued on 04 February 2019 for the Proposed Mahikeng Main Transmission Substation and 1x400kV Pluto-Mahikeng Powerline within the Merafong, Ditsobotla, Ramotshere Moiloa, JB Marks and Mahikeng Local Municipalities in North West and Gauteng Provinces, Ref. 14/12/16/3/3/2/1051/AM1, 2024.

environmental context within which the deviation is proposed. The assessment also identifies appropriate mitigation and management measures for inclusion in the Environmental Management Programme (EMPr) and to inform decision-making on the environmental authorisation application being advanced through the current Basic Assessment (BA) process.

This specialist assessment was undertaken by Ursula Pape of Solarys. Ursula is a social sustainability and stakeholder engagement practitioner with a background in environmental law. She holds an LLM in Constitutional, Administrative and Environmental Law, awarded with distinction by the University of Pretoria. She has 17 years' experience coordinating projects in the mining, oil and gas, and power sectors across South Africa, Kenya, Mozambique, Uganda and Zambia. Her curriculum vitae is included in ANNEXURE 1 to this report. A signed Specialist Declaration of Interest is included in **Error! Reference source not found.**.

2. STUDY OBJECTIVES

The objectives of this SIA are as follows:

- To develop a broad understanding of the socio-economic and land-use context of the proposed deviation area, with particular emphasis on the directly affected farm properties, surrounding land uses and relevant social receptors.
- To identify and assess the potential social and socio-economic impacts that may result from the construction, operation and maintenance of the proposed Pluto-Mahikeng powerline deviation.
- To consider the implications of the current servitude and land access context, including property-specific concerns raised or recorded during the landowner engagement process.
- To consider comments, concerns and issues raised by Interested and Affected Parties (I&APs), including directly affected landowners, occupiers and relevant authorities, during the public participation process undertaken as part of the Basic Assessment.
- To recommend appropriate mitigation and management measures to reduce and, where possible, avoid negative impacts, while enhancing positive impacts where feasible.
- To provide a reasoned opinion on the social acceptability of the proposed deviation, having regard to the findings of the assessment and the applicable legal and policy framework.

3. TERMS OF REFERENCE

The scope of this SIA is as follows:

- To consider the applicable legal, policy and planning framework relevant to the proposed deviation and the receiving social environment.
- To describe the baseline social and socio-economic environment within and surrounding the proposed deviation area, with particular emphasis on directly affected landowners, occupiers, surrounding agricultural land uses, access arrangements, livelihood activities and other relevant social receptors.
- To identify and assess potential social and socio-economic impacts associated with the proposed deviation during the construction, operation and maintenance phases, including impacts on land use, agricultural activities, movement and access, property management, wellbeing, safety and other aspects relevant to affected people.
- To identify potential positive impacts, including localised employment and procurement opportunities, and to consider measures to enhance such opportunities where feasible and appropriate.
- To consider the extent to which the current deviation changes the social impact profile of the previously authorised alignment, particularly in relation to property-level impacts, servitude requirements and landowner interface.
- To consider comments and inputs submitted by I&APs during the public participation process undertaken as part of the BA, in order to identify key concerns, sensitivities, potential impacts and possible mitigation measures.

- To consider other relevant specialist inputs, particularly where these have a bearing on the social assessment, including agricultural sensitivity, aquatic biodiversity, avifauna, palaeontological sensitivity and heritage context.
- To identify mitigation, management and monitoring measures to avoid, minimise or manage negative impacts and to optimise positive impacts for inclusion in the EMPr.
- To provide a reasoned opinion, informed by the broader objectives of NEMA and the need and desirability considerations applicable to the project, on the social acceptability of the proposed deviation, whether it should be authorised, and if so, under what conditions.

4. PROJECT DESCRIPTION

4.1 Overview of the broader authorised project

The overall project includes:

- Establishment of the Mahikeng MTS.
- Installation of up to 3 × 500 MVA 400/132kV transformers (with 2 installed initially).
- Development of 132kV feeder bays.
- Construction of access roads.
- Installation of communication infrastructure.
- Construction of an approximately 250 km 400kV transmission powerline.

The broader Pluto-Mahikeng project historically comprised the proposed development of the Mahikeng MTS and a high-voltage transmission powerline linking the existing Pluto MTS near Carletonville with the proposed Mahikeng substation area in the North West Province. The wider project was assessed over a distance of approximately 250 km and extended across portions of Gauteng and the North West Province. The 2018 specialist studies generally assessed two remaining corridor alternatives after the scoping phase, and the Environmental Authorisation issued on 4 February 2019 approved the preferred alternative for the broader project under reference 14/12/16/3/3/2/1051.[4]

4.2 Nature of the current application

During detailed engineering design, it was identified that:

- Two sections of the required 55 m servitude fall outside the approved 2 km corridor.
- These sections were not assessed in the original EIA
- As a result, they are not covered by the existing Environmental Authorisation.

As such, the current application does not seek authorisation for the entire Pluto-Mahikeng powerline. Instead, it relates to a shorter deviation from the already authorised alignment. As shown in Figure 1, the orange line represents the previously authorised route, while the shorter blue line represents the proposed deviation that now forms the subject of the BA and this SIA.

The need for the present BA arises because the deviation differs from the route description authorised in 2019. The Environmental Authorisation expressly provides that changes to, or deviations from, the approved project description may not be effected unless approved in writing by the competent authority. The present application must therefore assess the deviation on its own merits, while recognising its relationship to the broader authorised Pluto-Mahikeng project.

[4] DEA, *Environmental Authorisation*, 2019 (note 2 above).

4.3 Location of the proposed deviation

The proposed deviation is located within JB Marks Local Municipality , Dr Kenneth Kaunda District and a small portion (45m) within Mahikeng Local Municipality, Ngaka Modiri Molema District, North West Province. Unlike the broader 2018 assessment, which extended from the Pluto Substation area through to the Mahikeng substation area, the present study is focused on a shorter agricultural section of the route. The current DFFE screening report identifies the affected cadastral properties as including Nooitgedacht 69, Goedgedacht 27, Klipgat 18, Buchansvale 61, Illmasdale 70 and Bauwel 128, together with a number of relevant portions of those farms.[5] A preliminary 55 m servitude and indicative tower / structure locations have been identified, with coordinates provided in the preliminary EMP Walk Down staking table.

The proposed powerline route will traverse various farm portions within JB Marks Local Municipality, Dr Kenneth Kaunda District, and Mahikeng Local Municipality, Ngaka Modiri Molema District, North West Province (see Figure 1 and Table 2). A list of all the properties that are affected by the powerline route is provided in Table 2 below.

Table 2: Farm portions and affected landowners

Farm Name, Portion and Registration Division	Landowner
Buchansvale 61 IQ/2	WCPAB (Pty) Ltd
Goedgedacht 27 IQ/1	Japie Kluyts Trust
Klipgat 18 IQ/4	Quantum Leap Investments (Pty) Ltd
Klipgat 18 IQ/8 and 9	Luus Prop Co (Pty) Ltd
Nooitgedacht 69 IQ/0	Department of Rural Development and Land Reform
Nooitgedacht 69 IQ/3	Department of Rural Development and Land Reform
Illmasdale 70 IQ/2	Almoro Landgoed (Pty) Ltd
Bauwel 128	Department of Rural Development and Land Reform

Source: Vhubvo

[5] Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool, *Screening Report for an Environmental Authorization as Required by the 2014 EIA Regulations - Proposed Site: Pluto-Watershed Deviation*, generated 5 February 2026.

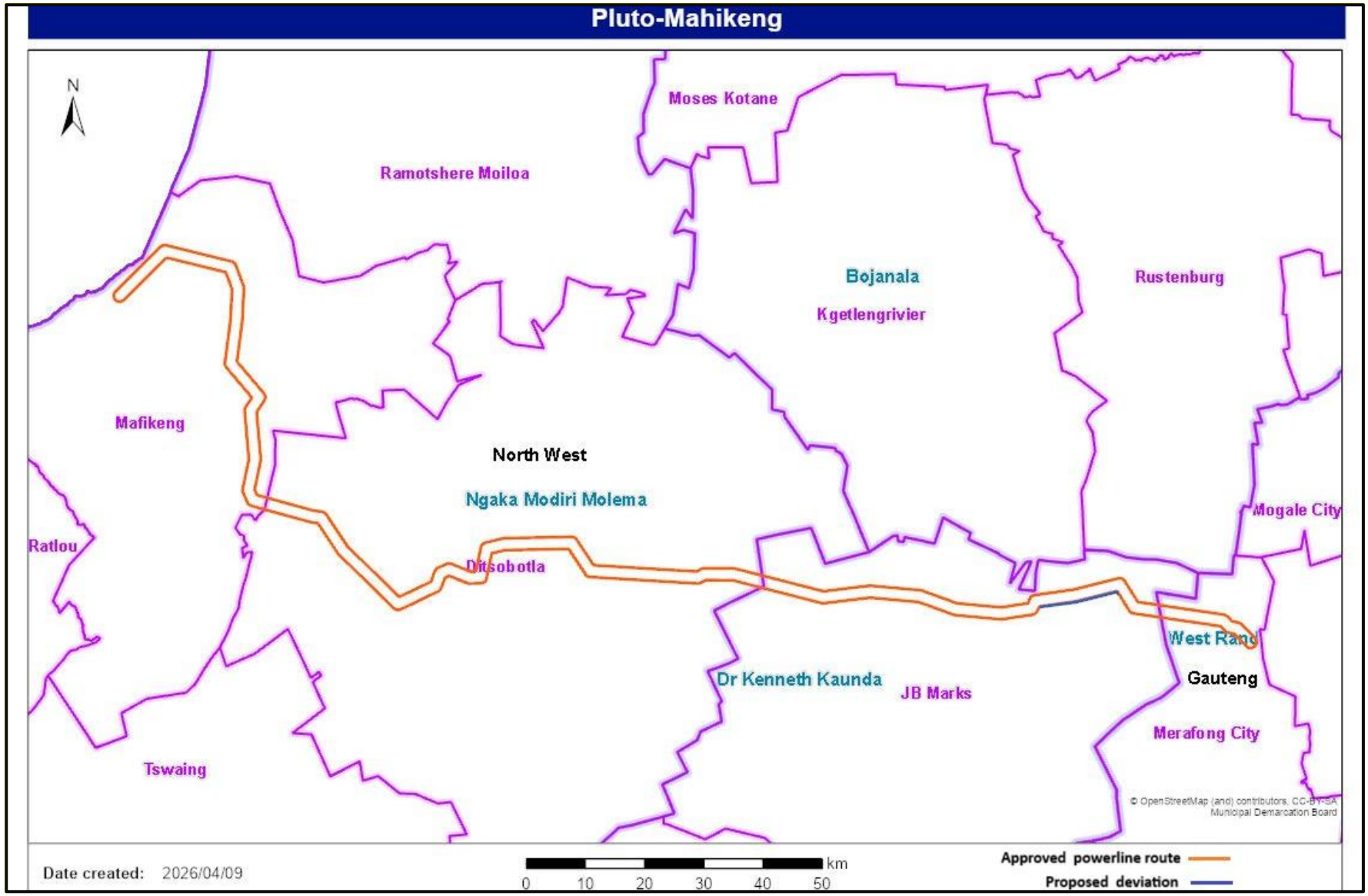


Figure 1: Locality map
Source: Vhubvo KMZ files

4.4 Main infrastructure components

From a technical and land-use perspective, the deviation remains part of the broader Pluto-Mahikeng 1 x 400 kV transmission project. The proposed powerline line will require a servitude of 55 m in width, being 27.5 m on either side of the centre line, while the corridor-level studies assessed a wider 2 km study corridor to allow for alignment refinement and associated infrastructure such as access roads. Although the current application is more limited in spatial extent, the same general development logic applies, namely the identification of a revised linear alignment and associated servitude requirements within the deviation area.

Tower types are chosen based on factors such as weight, footprint, height, cost and how easy they are to install. The proposed 400 kV towers will be made from lattice steel and may be up to approximately 43 metres high, with the conductors strung between the towers. The towers are generally expected to be spaced about 425 metres apart. Figure 2 shows examples of the types of towers commonly used for powerlines of this voltage.

The current deviation will therefore likely entail the revised placement of the transmission line centreline within the deviation corridor, together with associated tower positions, tower foundations, conductor stringing, temporary working areas and access arrangements needed to construct and maintain the line.

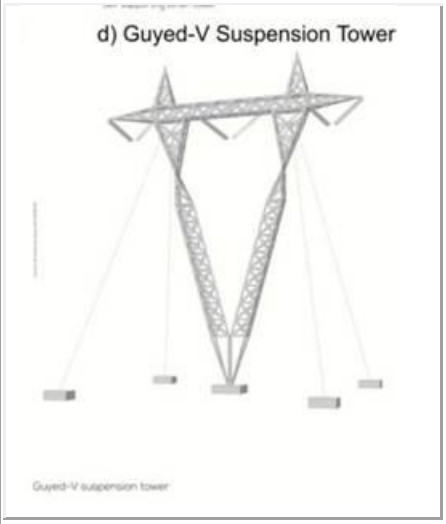
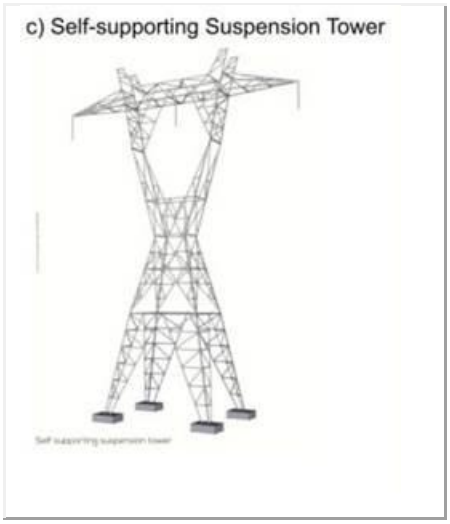
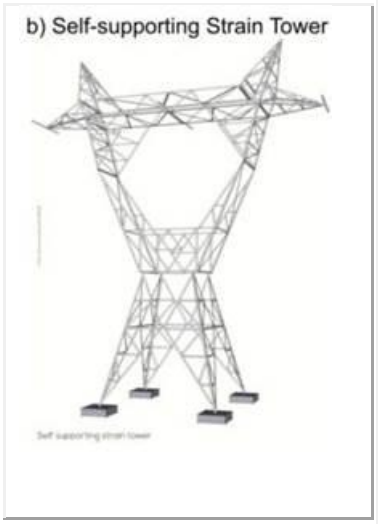
Guyed "VEE" Suspension Tower (520B)	Self-Supporting Suspension Tower (518E & 518 H)	Angle Strain and Closing Span Tower (517E & F, 518 C & D)
		

Figure 2: 400kV Tower examples

4.5 Ancillary works and site access

Ancillary works will include temporary or upgraded access tracks, movement of construction vehicles, temporary working areas and localised vegetation clearing where required for foundations and construction access.

Site access will be an important design and management consideration for the project. Landowner records indicate that access to several affected properties is subject to prior agreement with the relevant owner and, in some cases, is limited to specific gates or particular parts of the property. The social and operational feasibility of the proposed deviation is therefore closely linked to the manner in which access is planned, negotiated and managed during both the construction and maintenance phases.

Where feasible, existing roads leading to the proposed project area will be used. The construction footprint and associated access routes will be clearly demarcated to ensure that disturbance is confined to approved areas during the construction phase.

4.6 Project development cycle

4.6.1 Construction

The construction phase is expected to take approximately twelve months. However, the exact construction period can only be confirmed once the contractor has been appointed. During the construction phase of the proposed project the following activities are anticipated:

Site preparation

Vegetation and topsoil will be cleared where necessary to accommodate the project infrastructure, access roads, internal routes and laydown areas. Topsoil removed during these activities will be stockpiled for use in rehabilitation.

Transportation of equipment

All equipment required on site will be transported via national, provincial and district roads. This could include, among other things, trucks ranging from three to ten tons, cranes, compacting equipment and construction materials.

Site establishment works

Temporary laydown areas and site offices will be established for the construction contractor. This may include the contractor's selected electricity supply arrangements, such as generators and fuel storage, which will be required to comply with appropriate environmental protection measures.

Site rehabilitation

Once construction activities have been completed, all temporary structures and facilities will be removed and the site will be rehabilitated as far as reasonably possible.

4.6.2 Operation and maintenance

Once constructed, the deviation section would form part of the operational Pluto-Mahikeng transmission line and would be managed as part of the broader transmission network. The operational phase is generally expected to involve routine inspection and maintenance activities rather than continuous on-site activity. However, periodic maintenance access, vegetation management within the servitude, repairs following storm or fire damage, and occasional emergency access may still affect landowners and occupiers. For this reason, access management and ongoing communication with directly affected landowners remain relevant beyond the construction phase.

4.6.3 Decommissioning

No immediate decommissioning is proposed as part of the current application. As with the broader authorised project, the intended use of the infrastructure is long term. Should the line or any part of it ever be decommissioned in future, this would need to take place in accordance with the applicable legislative requirements in force at that time, including any rehabilitation obligations that may apply.

4.7 Employment

The proposed project is expected to create short-term employment opportunities during the construction and decommissioning phases, as well as limited longer-term employment during the operational phase. The construction phase is expected to take approximately twelve months. However, the exact construction period can only be confirmed once the contractor has been appointed.

4.4.1 Construction phase

During the construction phase, the Applicant will not employ workers directly. Instead, an Engineering, Procurement and Construction (EPC) contractor will be appointed to provide the required labour force. It is

anticipated that the EPC workforce will comprise a mix of unskilled, semi-skilled and skilled employees, with labour sourced from the North West Province to the extent possible.

It is not expected that large numbers of people from the directly affected communities will be employed, given the likely shortage of the technical skills required for certain construction activities. However, indirect opportunities may arise for local people through the provision of goods and services, such as the sale of food and other small-scale business activities that support the contractor's workforce.

Based on the nature of the proposed project, it is estimated that approximately 20 people may be employed during the peak construction phase. This number may, however, vary depending on the contractor's programme and the need to meet project completion targets. As such, the number people employed can only be confirmed when construction starts.

The appointed EPC contractor will be required to comply with the applicable requirements of the Development Charter, particularly in relation to local employment and the appointment of Small, Medium and Micro Enterprises (SMMEs). The final number of people to be employed during construction will only be confirmed once the contractor has been appointed and the project moves into implementation, as the contractor will be responsible for recruiting the workforce. At this stage, it is therefore not possible to provide fixed figures for local employment.

The types of jobs that may be created during the construction phase could include the following:

- Engineering Manager
- Health, Safety and Environment (HSE) Manager
- Site Manager
- Procurement Officer / Contract Administrator
- Project Manager
- Electrician
- Welder
- General construction workers
- Drivers
- Security guards
- Cleaners

4.4.2 Operational phase

During the operational phase, it is anticipated that only maintenance activities will be undertaken, and these will likely be carried out by **existing NTCSA employees**. As such, the proposed project is **not expected to create new employment opportunities** within NTCSA.

Throughout the various phases of the project, all applicable local legislation and regulations relating to occupational health and safety will be complied with. Where local legislation does not specifically address an identified occupational health and safety risk, internationally recognised good practice risk management measures will be applied to protect the work environment and safeguard employees working on the project.

4.8 Key implications for the SIA

For purposes of the present SIA, the most important feature of the proposed project description is that the current application concerns a relatively short route deviation in a predominantly agricultural working landscape, rather than a new assessment of the full regional transmission line. This means that the key social issues are likely to centre on directly affected properties, access and servitude arrangements, farm infrastructure, livestock and crop management, fire risk, disruption during construction, and the relationship between Eskom/NTCSA and affected landowners and occupiers. These considerations inform the way in which the social baseline and impact assessment are framed in the remainder of this report.

5. STUDY AREA

This section provides an outline of the socio-economic context in which the proposed project will be developed.

5.1 Regional study area overview

The proposed project site is located within the jurisdiction of the JB Marks Local Municipality, Dr Kenneth Kaunda District, and Mahikeng Local Municipality, and Ngaka Modiri Molema District, North West Province. Figure 3 indicates where JB Marks and Mahikeng Local Municipalities are located within the North West Province.[6]

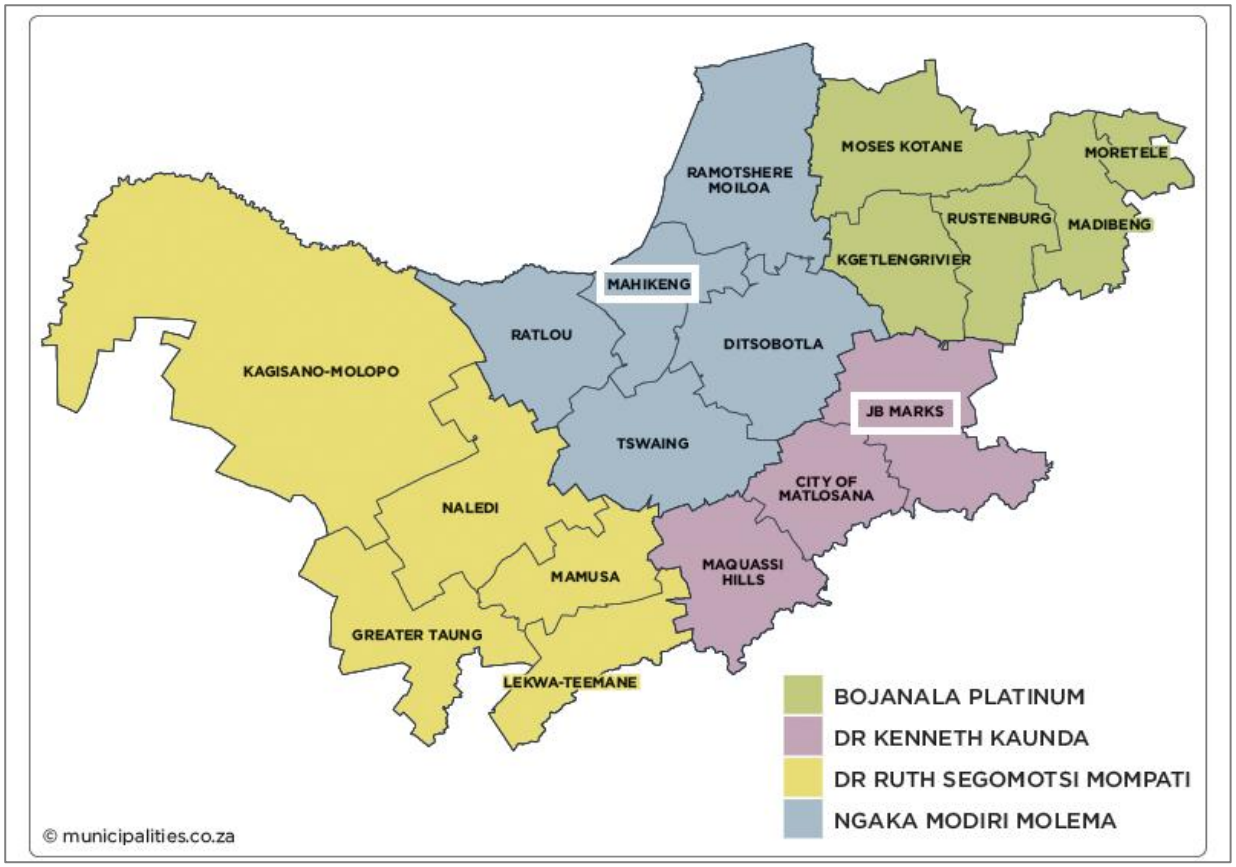


Figure 3: Regional locality
Source: https://municipalities.co.za/provinces/view/8/north-west

5.1.1 Dr Kenneth Kaunda District

The Dr Kenneth Kaunda District Municipality is a Category C municipality located in the North West Province, approximately 65 km south-west of Johannesburg, bordering Gauteng Province. [7] It is the smallest district municipality in the province, covering around 14% of the province's total geographical area (14 671 km² in total). The district comprises three local municipalities that include JB Marks, City of Matlosana and Maquassi Hills.

The district has a rich and varied natural and cultural heritage, which supports its potential for sustained economic growth. It is home to some of the world's most prominent gold mines, as well as one of the oldest meteor impact sites on earth.

[6] Map obtained from https://municipalities.co.za/provinces/view/8/north-west (accessed 9 April 2026).
[7] Municipalities of SA (note 6 above).

For purposes of this SIA, Dr Kenneth Kaunda District Municipality is directly relevant because the main portion of the proposed powerline deviation is located within JB Marks Local Municipality, which falls within the district. The district therefore provides the broader regional administrative, socio-economic and infrastructure context for the proposed deviation. It is also relevant because the district contains important transport, agricultural, mining, urban-service and institutional linkages that shape the social and economic context of the affected local area.

According to Census 2022 data, the district had a population of approximately 734 203 people, compared with 742 821 in 2016 and 695 933 in 2011. The district had approximately 220 146 households in 2022, with an average household size of 3.3 persons. The population is largely of working age, with approximately 66.8% of the population between 15 and 64 years, while 26.8% is younger than 15 years and 6.5% is older than 65 years.

The area is well served by a network of primary roads, with the N12 Treasure Corridor forming the main development axis through the district. This corridor also presents significant potential for future industrial, commercial and tourism-related development.

The main towns in the district include Hartbeesfontein, Klerksdorp, Leeudoringstad, Makwassie, Orkney, Potchefstroom, Stilfontein, Ventersdorp, Witpoort and Wolmaransstad.

The district's main economic sectors include community services, finance, transport, trade, construction, electricity, manufacturing, mining and agriculture.

5.1.2 Ngaka Modiri Molema District

The Ngaka Modiri Molema District Municipality is one of the four district municipalities in the North West Province. It is a Category C municipality and is situated in the central part of the province, sharing an international border with Botswana. The district comprises five local municipalities, namely Mahikeng, Ratlou, Ramotshere Moiloa, Ditsobotla and Tswaing. Mahikeng, which is the capital of the North West Province, is located within the district and functions as an important administrative, commercial and service centre. Other towns within the district include Lichtenburg, Zeerust, Coligny, Delareyville, Ottosdal, Sannieshof, Groot Marico, Setlagole and Madibogo. The main economic sectors in the district include agriculture, tourism and mining. [8]

For purposes of this SIA, the Ngaka Modiri Molema District Municipality is relevant because a very small portion of the proposed powerline deviation falls within the Mahikeng Local Municipality, which forms part of the district. Although the affected portion is limited in extent, the district-level context remains useful in understanding the broader administrative, socio-economic and service-delivery setting within which that portion of the project is located.

According to Census 2022 data, the district had a population of approximately 937 723 people, reflecting an increase from 842 699 people recorded in 2011. The district had approximately 257 552 households in 2022, with an average household size of 3.6 persons. The population structure is relatively young, with approximately 30.6% of the population under the age of 15 and 63.1% falling within the working-age category of 15 to 64 years.

The district is characterised by a mix of urban, peri-urban and rural settlement patterns. Mahikeng provides the main urban and administrative focus, while extensive rural areas remain dependent on agriculture, local services, transport linkages and access to district and local municipal infrastructure.

From a social baseline perspective, these conditions indicate a district with a significant rural component, variable access to basic services, and ongoing socio-economic vulnerability. The high proportion of young people and the historically high unemployment context suggest that local communities may be sensitive to

[8] Municipalities of SA (note 6 above).

development-related expectations, particularly where projects are perceived to offer employment, procurement or community benefit opportunities. At the same time, because the proposed deviation within the district is extremely limited in extent, the potential for direct district-wide social impacts is expected to be limited. The main relevance of the Ngaka Modiri Molema District Municipality is therefore as part of the broader regional administrative context and as the district authority within which the small Mahikeng Local Municipality portion of the deviation is located.

5.2 Local study area

5.2.1 JB Marks Local Municipality

The study area falls within the JB Marks Local Municipality, which is located in the Dr Kenneth Kaunda District Municipality of the North West Province.[9] JB Marks is the largest of the district's three local municipalities and was established in August 2016 through the amalgamation of the former Ventersdorp Local Municipality and Tlokwe City Council Local Municipality.

For purposes of this SIA, JB Marks Local Municipality is directly relevant because the main portion of the proposed Pluto-Mahikeng Powerline deviation falls within its municipal area. The municipality therefore provides the primary local-municipality context for assessing the social setting within which the proposed deviation is located. The affected area should be understood within a broader municipal landscape that includes urban and peri-urban development around Potchefstroom, agricultural land, rural settlement areas, transport infrastructure and areas influenced by mining, manufacturing, services and education-related activity.

The municipality is strategically located along the N12 national route, which links Johannesburg and Cape Town via Kimberley. It is also served by the main railway line connecting Gauteng with the Northern Cape and Western Cape, which passes through Potchefstroom. The municipality covers an area of approximately 6 398 km² and includes the main towns of Potchefstroom and Ventersdorp.

The local economy is characterised by a mix of services, manufacturing, agriculture and mining, with Potchefstroom serving as an important service and industrial centre. North-West University, whose main campus is located in Potchefstroom, is a major contributor to the local economy. Other important economic sectors include community services, electricity, construction, trade, transport and finance.

According to Census 2022 data, JB Marks Local Municipality had a population of approximately 212 670 people and approximately 66 719 households, with an average household size of 3.2 persons. The population is largely of working age, with approximately 68.0% of residents between 15 and 64 years, while 25.4% are younger than 15 years and 6.5% are older than 65 years.

Household service levels indicate a relatively established municipal context, although service-delivery constraints remain relevant. Census 2022 data indicates that approximately 84.4% of households lived in formal dwellings, 89.8% used electricity for lighting, 80.2% had access to flush toilets connected to sewerage, 75.1% received weekly refuse removal, and 57.7% had piped water inside the dwelling. These indicators suggest that the municipality has comparatively higher levels of service access than more rural municipalities, but that access to water inside dwellings and the remaining formalisation and service gaps remain relevant social baseline considerations.

From a social baseline perspective, JB Marks Local Municipality represents a mixed urban-rural local context with strong institutional, agricultural, transport and service-sector characteristics. The proposed deviation is not expected to result in municipality-wide social impacts; however, the local municipal context remains important for understanding the affected land-use setting, the role of agricultural land and property rights,

[9] Municipalities of SA (note 6 above).

the presence of existing transport and electricity infrastructure, and potential expectations regarding employment, procurement, access arrangements and construction-related disturbance.

5.2.1 Mahikeng Local Municipality

Mahikeng Local Municipality is a Category B municipality located within the Ngaka Modiri Molema District Municipality in the North West Province.[10] The municipality includes Mahikeng, Mmabatho and Ottoshoop, and is situated close to the Botswana border. Mahikeng is the capital city of the North West Province and functions as an important provincial administrative centre, accommodating the Provincial Legislature and a number of regional offices of national government departments. The municipality covers an area of approximately 3 646 km² to 3 703 km², depending on the source, and comprises 35 wards and numerous villages and suburbs.

For purposes of this SIA, Mahikeng Local Municipality is relevant because a very small portion of the proposed powerline deviation, approximately 45 m, falls within its municipal area. Although this portion is limited in extent, the inclusion of Mahikeng Local Municipality in the regional study area is appropriate because it forms part of the administrative context within which the proposed deviation is located. The likely direct social influence of the deviation on the broader Mahikeng municipal area is, however, expected to be very limited, given the small spatial extent of the affected section.

Mahikeng Local Municipality had a population of approximately 354 504 people in 2022, increasing from 291 527 people in 2011. The municipality had approximately 104 648 households in 2022, with an average household size of 3.4 persons. The population is relatively young, with approximately 28.9% of the population under the age of 15 and 66.0% falling within the working-age category of 15 to 64 years.

The municipality contains a mix of urban, peri-urban, rural, traditional authority and agricultural areas. While Mahikeng and Mmabatho provide the main urban and administrative focus, much of the municipal area remains rural in character. The municipal annual report indicates that farm areas and traditional areas make up the majority of the municipal land area, with formal urban areas comprising a relatively small proportion of the total municipal area. The main economic sectors include agriculture, mining, manufacturing, trade and tourism. From a social baseline perspective, Mahikeng Local Municipality represents a locally important administrative and service centre within a broader rural and agricultural municipal setting. The presence of a young population, historical unemployment challenges, uneven access to basic services and a mixed urban-rural settlement pattern are relevant when considering potential social sensitivities and community expectations associated with infrastructure projects. In this case, however, the very limited extent of the proposed deviation within Mahikeng Local Municipality means that direct social impacts within the municipality are expected to be highly localised and limited, with the municipality's main relevance being its role as the local authority for the small affected portion of the deviation.

6 STUDY METHODOLOGY

This study was undertaken in accordance with the approach and guidance set out in the DEAT (2006) Socio-Economic Impact Assessment Integrated Environmental Management Information Series 22, and assessed social and economic impacts in an integrated manner. The methodology applied in compiling the SIA is outlined below.[11]

[10] Municipalities of SA (note 6 above).

[11] DEAT (2006) Socio-Economic Impact Assessment, Integrated Environmental Management Information Series 22, Department of Environmental Affairs and Tourism (DEAT), Pretoria https://www.dffe.gov.za/sites/default/files/docs/series22_socioeconmic_impact_assessment.pdf (accessed 9 April 2026) 4.

6.1 Data gathering

The study was undertaken through a desktop review of available secondary data sources. The documents and online sources consulted are listed below:

- JB Marks Local Municipality, Final Integrated Development Plan 2022-2027 (2025-2026 Review).[12]
- Draft Mahikeng Local Municipality, 3rd IDP Review 2025-2026.[13]
- Draft IDP 2026-2026, Ngaka Modiri Molema District Municipality.[14]
- Dr Kenneth Kaunda District Municipality, Integrated Development Plan 2022-2027 (2025-2026 Review).[15]
- Department of Economic Development, Environment Conservation and Tourism, North West Provincial Government, Annual Report, 2024/2025.[16]
- Department of Economic Development, Environment Conservation and Tourism, North West Provincial Government, Strategic Plan 2025-2030.[17]
- Department of Public Works and Roads, North West Provincial Government, Strategic Plan, 2025 - 2030.[18]
- North West Office of the Premier, Strategic Plan, 2025 - 2030.[19]
- North West Provincial Spatial Development Framework (PSDF / NWSDF).[20]
- North West Provincial Development Plan 2030.
- North West Provincial Spatial Development Framework.
- North West Environmental Implementation Plan, 4th Edition (2020-2025).
- North West Climate Change Response Strategy and Implementation Plan.
- North West Biodiversity Sector Plan (2024-2030).
- North West Environment Outlook (2018).
- North West Protected Area Expansion Strategy.
- North West Provincial Growth and Development Strategy.
- Department of Mineral Resources and Energy, Integrated Resource Plan, October 2025.[21]
- Eskom National Transmission Company of South Africa, Transmission Development Plan, 2025 - 2034.[22]
- Statistics South Africa Quarterly Labour Force Survey (Q1:2026).
- Statistics South Africa Census 2022 (Stats SA Census 2022).

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[12] JB Marks Local Municipality Integrated Development Plan (IDP) 2022-2027 (2025-2026 Review) https://www.jbmarks.co.za/download/final-idp-2025-2026/?wpdmdl=17639&refresh=69d7ac512b2861775742033 (accessed 9 April 2026)

[13] Draft Mahikeng Local Municipality, 3rd IDP Review 2025-2026 https://www.mahikeng.gov.za/download/draft-mlm-3rd-idp-review-2025-2026/?wpdmdl=18277&refresh=69f35a4bcd6011777556043 (accessed 30 April 2026).

[14] Draft IDP 2026-2026, Ngaka Modiri Molema District Municipality https://www.nmmdm.gov.za/download/draft-idp-2026-2027/?wpdmdl=17320&ind=1775727814116&refresh=b18a237a&filename=DRAFT-IDP-2026-27.pdf (accessed 30 April 2026).

[15] Dr Kenneth Kaunda District Municipality, Integrated Development Plan 2022-2027 (2025-2026 Review) https://www.kaundadistrict.gov.za/documents/idp/2025-26%20IDP%20Review%20Document%20-%20May%202025.pdf (accessed 9 April 2026).

[16] https://provincialgovernment.co.za/department_annual/1643/2025-north-west-economic-development-environment-conservation-and-tourism-annual-report.pdf (accessed 9 April 2026).

[17] North West DEDECT Strategic Plan 2025-2030 https://dedect.nwpg.gov.za/wp-content/uploads/2025/06/STRATEGIC-PLAN-2025-2030.pdf (accessed 9 April 2026).

[18] North West Department of Public Works and Roads Strategic Plan 2025-2030 https://www.nwpg.gov.za/public%20works/Documents/PolicyDoc/Strat%20Plan%202025-2030%20-%20DPWR.pdf (accessed 9 April 2026).

[19] North West Office of the Premier Strategic Plan 2025-2030 https://premier.nwpg.gov.za/wp-content/uploads/2025/09/Office-of-the-Premier-Strategic-Plan-2025-2030.pdf (accessed 9 April 2026).

[20] North West Spatial Development Framework https://code4sa-gazettes.s3.amazonaws.com/archive/ZA-NW/2017/provincial-gazette-ZA-NW-vol-258-no-7723-dated-2017-01-12.pdf

[21] Department of Mineral Resources and Energy, Integrated Resource Plan, October 2025 https://www.dmre.gov.za/Portals/0/Energy%20Resources/IRP/IRP%202025/User-Friendly-IRP-2025.pdf?ver=d278hZ0IzvO7hIWLiwLoaQ%3d%3d (accessed 9 April 2026).

[22] Eskom National Transmission Company of South Africa, Transmission Development Plan, 2025 - 2034 https://www.ntcsa.co.za/tdp/transmission-development-plan-2025-2034-public-report/ (accessed 9 April 2026).

- Turnscapes Travel and Tourism (Pty) Ltd, Social Impact Assessment for the Proposed Construction of Mahikeng Substation and a 275kV Powerline from the Pluto Substation to Mahikeng within the Dr Kenneth Kaunda, West Rand, Ngaka Modiri Molema District Municipalities, Gauteng and North-West Province, 2018.
- Mosaka Economic Consultants CC t/a Conningarth Economists, Final Report - Economic Impact Assessment: Proposed Mahikeng Main Transmission Substation and 1x275kV Pluto-Mahikeng Powerline within the Merafong City Local Municipality of the Gauteng Province and the Ditsobotla, Ramotshere Moiloa, JB Marks and Mafikeng Local Municipalities of the North West Province, 18 July 2018.
- Project Description provided by Vhubvo Consultancy cc (Vhubvo).
- Diamond, M. 2026. Mahikeng Main Transmission Substation & Pluto-Mahikeng 400kV Power Line: Site Specific Construction and Operational Environmental Management Programme Report (Avifauna). Feathers Environmental Services. Prepared for Vhubvo Archaeo-Heritage Consultants CC. 24 April 2026.
- GWI Aviation Advisory. 2026. Civil Aviation Site Sensitivity Verification Report for the Deviation of the 275kV Pluto-Mahikeng Powerline within JB Marks Local Municipality under the Dr Kenneth Kaunda District Municipality and Mahikeng Local Municipality within the Ngaka Modiri District Municipality, North West Province. 1st Draft. Prepared for Vhubvo Consultancy CC, Environmental Assessment Practitioner for the National Transmission Company South Africa. 7 April 2026.
- Outline Landscape Architects cc. 2026. Basic Assessment for the Deviation of the 1 x 400kV Pluto-Mahikeng Powerline within JB Marks Local Municipality under the Dr Kenneth Kaunda District Municipality and Mahikeng Local Municipality within the Ngaka Modiri District Municipality, North West Province: Visual Impact Assessment. Prepared for Vhubvo Consulting on behalf of the National Transmission Company South Africa SOC Ltd. March 2026.
- Maphaha, K.C. 2026. Freshwater Walkdown Assessment Report for the Proposed Pluto-Mahikeng 400kV Transmission Powerline and Associated Infrastructure. Draft Report, Version 1.0. Tshilimo Consulting Services (Pty) Ltd. Prepared for Vhubvo Consultancy cc. 23 April 2026.
- Phillip, P. and Nhundu, A. 2026. Archaeological and Cultural Heritage EMPr Walkdown Specialist Report for the Proposed Mahikeng Main Transmission Substation and 1x400kV Pluto-Mahikeng Powerline within the Merafong, Ditsobotla, Ramatshere, Moilao, JB Marks and Mahikeng Local Municipalities in the North West and Gauteng Provinces. AfroConserva Intergration. Prepared for the National Transmission Company South Africa. 07 April 2026.

The purpose of the desktop review was to gain an understanding of the regional context and community needs as identified in various studies and documents that are available online.

6.2 Comments from affected landowners

The SIA considered a review of the available landowner servitude negotiation consultation record for the proposed deviation area. This record provides useful insight into property-specific concerns, access requirements, operational constraints and other matters raised by directly affected landowners during the servitude negotiation process. These records were treated as an important contextual source of information in compiling the SIA, particularly in relation to issues such as gate control, access routes, livestock movement, fencing, fire risk, dust, damage to farm infrastructure and the positioning of the line relative to farm boundaries.

In addition, the findings of the public consultation process to be undertaken as part of the BA will be considered in finalising the SIA. Comments submitted by Interested and Affected Parties through that process will assist in identifying any additional social sensitivities, concerns and potential impacts associated with the proposed deviation, and will help inform the refinement of mitigation and management measures for inclusion in the EMPr. Input received during the upcoming public consultation process will be included in section 8.9 of this report.

6.3 Data analysis

The information gathered through the desktop review and the review of landowner records was analysed to determine the social conditions and sensitivities relevant to the proposed deviation area. The analysis focused on the interaction between the proposed deviation and the receiving social environment, with particular emphasis on directly affected landowners and occupiers, current agricultural land uses, access arrangements, property management requirements, and the manner in which construction and maintenance activities may affect ongoing land use and livelihood activities. Where relevant, findings from previous specialist studies were also considered in order to identify related or overlapping issues that may influence the social assessment, including agricultural sensitivity, heritage considerations and environmental constraints that could affect how the deviation is ultimately implemented. Information relating to the broader regional and local study area was also reviewed in order to identify relevant socio-economic trends. A description of the socio-economic baseline and key trends is provided in section 8.

6.4 Impact assessment

Potential social and socio-economic impacts associated with the proposed deviation were identified on the basis of the current project description, the receiving environment, the available landowner information and the broader environmental and planning context. The assessment considered potential impacts during the construction, operation and maintenance phases of the project. Particular emphasis was placed on impacts relating to land access, agricultural operations, property management, safety, nuisance effects, and the ongoing interface between the project proponent and affected landowners or occupiers. Measures to avoid, reduce or manage negative impacts, and where relevant enhance positive impacts, were then identified for inclusion in the EMPr and to inform decision-making on the application.

6.5 Consideration of applicable regulatory requirements

This SIA has been prepared in accordance with the requirements applicable to specialist studies under the Environmental Impact Assessment Regulations, 2014 (as amended) (EIA Regulations). In addition, the study took account of the current screening tool output prepared for the proposed deviation, which identifies a number of environmental sensitivity themes relevant to the application and confirms that the proposed site sensitivities must be verified by suitably qualified specialists. The methodology applied in this SIA is therefore intended to support the BA process by ensuring that the relevant social issues associated with the deviation are identified and appropriately considered.[23] These requirements, and the sections of this SIA in which they are addressed, are summarised in Table 1.

6.6 Guideline on Need and Desirability, Department of Environmental Affairs

In compiling the SIA, due consideration was also given to the need and desirability of the proposed deviation within the meaning of NEMA and the associated guidance issued by the competent authority. In the present context, this entails consideration not only of the broader electricity transmission function of the project, but also of whether the proposed deviation represents an acceptable approach in social terms, taking into account the receiving environment, the constraints associated with the approved route, and the extent to which impacts on affected landowners and occupiers can be appropriately managed. Table 12 in ANNEXURE provides a summary of the respective questions as outlined in the Guideline on Need and Desirability, and the sections of this SIA in which they are addressed.

[23] Environmental Impact Assessment Regulations, 2014 GN R982 published in GG 38282 of 4 December 2014 (as amended) (EIA Regulations) Appendix 6.

6.7 Study limitations

While every reasonable effort was made to prepare an SIA that addresses the key social issues associated with the proposed deviation, the study is subject to certain limitations. The assessment is desktop-based and has relied on the project information and records available at this stage of the BA process. Five draft specialist field studies were completed, covering freshwater ecology, avifauna, archaeological and cultural heritage, visual impact, and civil aviation site sensitivity. Field surveys were conducted between February and March 2026. The impact assessment in Section 9, the EMPr site-specific measures in Table 11, and the cumulative impact assessment should accordingly be read in conjunction with those specialist reports. In particular, at the time of preparation of this report, a preliminary development footprint has been specified. In addition, the public consultation process for the current BA is still underway, and further issues may emerge through that process which should be taken into account in finalising the SIA.

7 POLICY, ADMINISTRATIVE AND LEGAL FRAMEWORK

The legal, policy and administrative framework provides an important basis for assessing the potential social impacts of a proposed development. A key component of the SIA is therefore to consider the extent to which the proposed development aligns with applicable legislation, planning instruments and policy documents. Where a project is found to be inconsistent with relevant legal requirements, policy provisions, principles or guidelines, this must be taken into account in evaluating its overall acceptability. In preparing this SIA, the sources listed below were reviewed.

7.1 Constitution of the Republic of South Africa, 1996

The Constitution of the Republic of South Africa, 1996, as the supreme law of the country, provides the overarching legal framework within which this application must be considered.[24] Of particular relevance is the environmental right in section 24, which requires that the environment be protected for the benefit of present and future generations through reasonable legislative and other measures that secure ecologically sustainable development while promoting justifiable economic and social development. In the context of this application for the proposed powerline deviation, this constitutional framework requires that environmental, social and economic considerations be assessed in an integrated manner.

The Constitution also gives effect to important procedural rights that are directly relevant to environmental assessment and decision-making, including the right of access to information and the right to lawful, reasonable and procedurally fair administrative action. These rights are reflected in legislation such as the Promotion of Administrative Justice Act 3 of 2000, the Promotion of Access to Information Act 2 of 2000, the National Environmental Management Act 107 of 1998 (NEMA), and other specific environmental legislation that governs the authorisation and management of development proposals.

In addition, the Constitution protects a range of fundamental rights that are relevant to the social assessment of this application, including the rights to equality, human dignity and life, as well as labour-related rights such as fair labour practices. These rights are given further effect through legislation including the Labour Relations Act 66 of 1995 and the Employment Equity Act 55 of 1998. Although this application relates to a linear infrastructure deviation rather than a standalone industrial facility, these rights remain relevant insofar as the proposed development may affect landowners, occupiers, workers, contractors and other affected persons.

Constitutional rights bind all spheres of government, organs of state and, where applicable, natural and juristic persons. Accordingly, the planning, assessment, authorisation and implementation of the proposed

[24] Constitution of the Republic of South Africa, 1996.

deviation must be undertaken in a manner that is consistent with the rights and principles enshrined in the Constitution

7.2 National Environment Management Act 107 of 1998

The National Environmental Management Act 107 of 1998 (NEMA) is South Africa's overarching environmental framework legislation and provides the key environmental management principles against which this application must be assessed.[25] These principles are intended to promote integrated environmental management and to give effect to sustainable development.

Within the context of this application for the proposed powerline deviation, sustainable development requires that the deviation be assessed not only in terms of its technical and environmental implications, but also in terms of whether it represents an appropriate and justifiable development option from a social and economic perspective. As recognised in the Guideline on Need and Desirability, this entails pursuing development in a manner that meets social and economic needs, promotes equity, and avoids unacceptable impacts on the natural and human environment.

The NEMA principles are therefore directly relevant to this SIA, particularly insofar as they require consideration of issues such as the equitable distribution of impacts and benefits, the protection of existing land uses and livelihoods, the avoidance or minimisation of adverse impacts, and the need for transparent and informed decision-making. Table 12 provides a summary of the questions arising from the NEMA environmental management principles and identifies the sections of this SIA in which those questions are addressed.

7.3 Standard for the Development and Expansion of Electricity Transmission and Distribution Power Line Infrastructure

A further regulatory instrument of relevance to the proposed development is the Standard for the Development and Expansion of Power Lines and Substations within Identified Geographical Areas.[26] This standard, adopted by the Department of Forestry, Fisheries and the Environment in July 2022, provides the framework under which certain listed powerline and substation activities within strategic transmission corridors may be excluded from the requirement to obtain environmental authorisation, provided that the relevant site is identified by the national screening tool as having low or medium environmental sensitivity and that this sensitivity is confirmed through the procedures set out in the standard. The exclusion does not apply where any part of the infrastructure falls within an area confirmed as having high or very high sensitivity for any environmental theme, or where the greater part of the infrastructure falls outside a strategic transmission corridor.

In the case of the proposed Pluto-Mahikeng deviation, the standard is relevant as part of the broader legal and decision-making framework, but it does not remove the need for the present BA process. The current screening report confirms that the site falls within both the Strategic Transmission Corridor - Northern corridor and the Strategic Transmission Corridor - Central corridor. However, the screening report identifies high agricultural sensitivity, high animal-species sensitivity, very high aquatic biodiversity sensitivity, very high palaeontological sensitivity, and very high terrestrial biodiversity sensitivity across the proposed development area. As such, a BA process is required.

[25] National Environmental Management Act 107 of 1998 (NEMA).

[26] DFFE Standard for the Development and Expansion of Electricity Transmission and Distribution Power Line Infrastructure https://www.dffe.gov.za/sites/default/files/docs/electricitytransmission_standard2024feb.pdf (accessed 9 April 2026).

7.4 National Water Act 36 of 1998

The National Water Act 36 of 1998 (NWA) is relevant to this application because the proposed powerline deviation may interact with water resources and watercourse features within the receiving environment.[27] The Act seeks to ensure that water resources are protected, used, developed, conserved, managed and controlled in a manner that supports key objectives such as meeting the basic needs of present and future generations, promoting equitable access to water, redressing the effects of past discrimination, promoting the efficient, sustainable and beneficial use of water in the public interest, facilitating social and economic development, and responding to growing water demands.

In the context of this SIA, these objectives are relevant because the proposed deviation must be considered not only in terms of its potential biophysical effects on water resources, but also in terms of any implications for surrounding land uses, agricultural activities and other social receptors that may depend on water-related resources and functions. To the extent that water use authorisation is required for any component of the proposed deviation, the objectives and requirements of the NWA will therefore form part of the broader legal framework applicable to the assessment and implementation of the project.

The freshwater specialist report confirms that the Mooi River crossing at Towers 500-501 constitutes a direct impact area: the Mooi River is perennial, with HIGH ecological sensitivity and a Present Ecological State (PES) rating of B/C.[28] Note that his area falls outside of the proposed deviation footprint and within the already authorised project area. Construction activities at this crossing will trigger Section 21(c) (impeding or diverting the flow in a watercourse) and Section 21(i) (disposing of waste in a manner that detrimentally affects a water resource) of the National Water Act. A Water Use Licence Application (WULA) must be submitted to the Department of Water and Sanitation (DWS) before any construction activities commence at the Mooi River or any other identified Section 21 water use point.

7.5 National Heritage Resources Act of 1999 (NHRA)

The archaeological specialist report identifies burial site MBS01 within the broader (already authorised) study area, comprising more than 12 graves including infant burials, with evidence of ongoing active visitation, and rated HIGH heritage significance.[29] Section 36(3)(a) of the NHRA prohibits any destruction, damage, excavation, alteration, decontextualisation or removal of any grave or burial site without a permit from the South African Heritage Resources Agency (SAHRA).

7.6 Civil Aviation Act 13 of 2009

The Civil Aviation Site Sensitivity Verification confirms that the proposed deviation results in no obstacle penetrations and that the civil aviation sensitivity of the study area is Low.[30] However, the Civil Aviation Act 13 of 2009 and the South African Civil Aviation Technical Standards (SA-CATS) and regulations (SACARS) require that an Obstacle Approval Application be submitted to the South African Civil Aviation Authority (SACAA) after the Environmental Authorisation is granted and before construction commences. The Obstacle Approval process determines marking and illumination requirements for the proposed structures. Tower

[27] National Water Act 26 of 1998.

[28] Maphaha, K.C. 2026. Freshwater Walkdown Assessment Report for the Proposed Pluto-Mahikeng 400kV Transmission Powerline and Associated Infrastructure. Draft Report, Version 1.0. Tshilimo Consulting Services (Pty) Ltd. Prepared for Vhubvo Consultancy cc. 23 April 2026.

[29] Phillip, P. and Magoma, M. 2026. Archaeological and Cultural Heritage EMPr Walkdown Specialist Report for the Proposed Mahikeng Main Transmission Substation and 1x400kV Pluto-Mahikeng Powerline within the Merafong, Ditsobotla, Ramatshere, Moilao, JB Marks and Mahikeng Local Municipalities in the North West and Gauteng Provinces. Vhubvo Consultancy CC. Prepared for the National Transmission Company South Africa. 07 April 2026.

[30] GWI Aviation Advisory. 2026. Civil Aviation Site Sensitivity Verification Report for the Deviation of the 275kV Pluto-Mahikeng Powerline within JB Marks Local Municipality under the Dr Kenneth Kaunda District Municipality and Mahikeng Local Municipality within the Ngaka Modiri District Municipality, North West Province. 1st Draft. Prepared for Vhubvo Consultancy CC, Environmental Assessment Practitioner for the National Transmission Company South Africa. 7 April 2026.

erection may not commence until SACAA Obstacle Approval has been obtained or SACAA has confirmed in writing that no approval is required.

7.7 National Development Plan

The National Development Plan 2030 (NDP) seeks to eliminate poverty and reduce inequality by 2030 and recognises infrastructure investment as a key mechanism for supporting inclusive economic development.[31] Of particular relevance to this application, Chapter 4 of the NDP highlights the importance of investment in energy infrastructure to strengthen electricity supply, improve the reliability of the transmission and distribution network, and support broader economic activity.[32] In the context of the proposed powerline deviation, the NDP is relevant because transmission infrastructure forms part of the broader public infrastructure required to support energy security, economic opportunity and improved living conditions.[33] The NDP also recognises that strategic investment in infrastructure, including energy infrastructure, can contribute to development by enabling growth, supporting employment and improving access to essential services.[34] The proposed deviation must therefore be considered within this wider national development context, while at the same time ensuring that localised social and land use impacts are properly identified and managed.

Given the close link between increased capabilities, opportunities and employment on social and living conditions as depicted in Figure 4, the NDP lists prioritisation of public infrastructure investment at 10% of gross domestic product (GDP), financed through tariffs, public-private partnerships, taxes and loans and focused on transport, energy and water.[35]

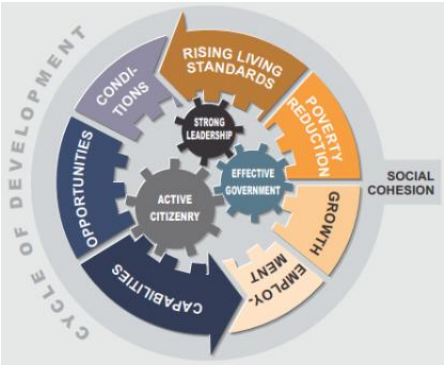


Figure 4: NDP approach to change
Source: NDP 2030

7.8 National Infrastructure Plan 2050

In support of the National Development Plan's vision for inclusive growth and improved infrastructure delivery, the National Infrastructure Plan 2050 (NIP 2050) provides a strategic framework for strengthening the delivery of key public infrastructure over the medium to long term. [36] Phase 1 of the NIP 2050 focuses on critical infrastructure sectors including energy, freight transport, water and digital communications, and places particular emphasis on the need to improve installed energy capacity together with the transmission and distribution networks required to support that capacity.[37]

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31 National Development Plan 2030 (NDP), National Planning Commission, Department: The Presidency, Republic of South Africa 168.

32 NDP (note 31 above) 163.

33 NDP (note 31 above) 170.

34 NDP (note 31 above) 171.

35 NDP (note 31 above) 33.

36 National Infrastructure Plan 2050 Phase I, GN 1874 published in GG 46033 of 11 March 2022 6. https://www.gov.za/sites/default/files/gcis_document/202203/46033gon1874.pdf (accessed 9 April 2026) (NIP 2050).

37 As above.

This framework is relevant to the present application because electricity transmission infrastructure is recognised as a strategic component of South Africa's broader infrastructure programme. In this context, the proposed powerline deviation forms part of the type of network infrastructure required to strengthen grid performance and support reliable electricity transmission. The NIP 2050 therefore provides broader policy support for investment in transmission and distribution infrastructure, while the present assessment remains concerned with ensuring that the specific deviation alignment is socially acceptable and that its localised impacts are appropriately assessed and managed.

7.9 National Integrated Resource Plan, 2025

Since the original social assessment was undertaken in 2018, the national electricity planning framework has evolved. The Integrated Resource Plan (IRP) 2025 recognises electricity transmission infrastructure as an integral component of national power system planning.[38] Read with the Eskom Transmission Development Plan 2025-2034, the IRP reinforces the strategic importance of expanding and strengthening the transmission network.[39] In the context of this application, the IRP 2025 is relevant as updated national policy context supporting the continued strategic importance of transmission infrastructure, although the present SIA remains focused on the localised social implications of the proposed deviation.

7.10 North West Strategic Planning Documents

7.6.1 North West Office of the Premier Strategic Plan 2025-2030

The North West Office of the Premier Strategic Plan 2025-2030 provides broad provincial strategic direction through three Medium Term Development Plan priorities, namely **inclusive growth and job creation**, **reducing poverty and tackling the high cost of living**, and **building a capable, ethical and developmental state**.[40] The plan further emphasises the role of coordinated infrastructure delivery, integrated planning through the District Development Model (DDM), and the work of the Premier's Infrastructure Coordinating Council in accelerating service delivery and supporting economic growth across the province. It also indicates that the province is increasingly exploring alternative measures to respond to climate change and load shedding challenges, including support for renewable energy projects and the coordination of infrastructure development and investment.

In this context, the proposed powerline deviation is aligned with the broad thrust of the Office of the Premier's strategy insofar as it forms part of strategic electricity network infrastructure needed to support energy security, coordinated infrastructure development and longer-term socio-economic growth. The project is also consistent with the plan's emphasis on integrated planning, alignment of infrastructure initiatives with provincial priorities, and the need to ensure that development projects contribute to improved service delivery and development outcomes. At the same time, the Office of the Premier's strategy makes it clear that infrastructure planning must be coordinated, responsive and aligned with provincial and local development objectives. The proposed deviation should therefore be regarded as strategically aligned at provincial level, subject to the requirement that its localised social, land use and environmental impacts are properly assessed and managed through the BA and associated specialist studies.

7.6.2 North West Department of Public Works and Roads Strategic Plan 2025-2030

The North West Department of Public Works and Roads Strategic Plan 2025-2030 is centred on the role of infrastructure in improving service delivery and supporting economic growth.[41] Its vision is to improve the lives of citizens of the North West Province through the provision of infrastructure that supports service delivery and economic growth, while its mission focuses on the delivery and maintenance of infrastructure that enables citizens to access services and participate in the economy through job creation and

[38] DMRE IRP 2025 (note 21 above).
[39] Eskom National Transmission Company of South Africa, Transmission Development Plan, 2025 - 2034 (note
[40] North West Office of the Premier Strategic Plan 2025-2030 (note 19 above).
[41] North West Department of Public Works and Roads Strategic Plan 2025-2030 (note 18 above).

developmental programmes. The plan expressly links infrastructure delivery and maintenance to inclusive economic growth and identifies better alignment of infrastructure planning, budgeting, procurement and implementation as a key provincial objective.

Although this departmental strategy is primarily concerned with public works and roads infrastructure rather than electricity transmission infrastructure specifically, it is still relevant as an expression of the province's broader infrastructure-led development approach. The proposed powerline deviation aligns with that approach insofar as it forms part of essential bulk infrastructure that supports access to services, underpins economic activity and contributes to the functioning of wider development systems. The project is therefore consistent with the strategic emphasis placed by the department on infrastructure as an enabler of economic participation and improved public service outcomes. This alignment is, however, thematic rather than mandate-specific, and does not remove the need to ensure that the deviation is appropriately aligned with local land use conditions and that any construction-related impacts are effectively managed.

7.6.3 North West DEDECT Strategic Plan 2025-2030

The Strategic Plan of the North West Department of Economic Development, Environment, Conservation and Tourism (DEDECT) is relevant to this application because it combines economic development and environmental governance priorities.[42] The plan expressly supports the objectives of the National Development Plan by promoting economic growth, transformation, employment creation and broader access to services, including electricity. It also identifies a number of institutional policies and strategies that are relevant to environmental assessment and development planning in the province, including the Provincial Industrial Development Strategy, Provincial Economic Development Strategy, Environmental Management Frameworks (EMFs), the North West Climate Change Response Strategy, the North West Environmental Implementation Plan, the North West Biodiversity Sector Plan, the Protected Area Expansion Strategy, the Integrated Waste Management Plan and the Air Quality Management Plan. The strategy notes that EMFs are intended to inform integrated development planning, support cooperative governance and speed up decision-making in environmental impact assessment processes.

The proposed powerline deviation aligns with this strategic framework in two important respects. First, from an economic development perspective, it supports the type of enabling infrastructure needed to strengthen energy transmission and thereby contribute to a functioning provincial economy. Second, from an environmental governance perspective, the project is being assessed through a formal BA process that is consistent with the province's emphasis on coordinated environmental planning, integrated decision-making and the application of instruments such as EMFs, biodiversity planning tools and climate response frameworks. The DEDECT strategy therefore supports the need for infrastructure development, while also requiring that such development be planned and assessed in a manner that is environmentally responsible and aligned with provincial environmental management objectives. In this sense, the proposed deviation is broadly aligned with DEDECT's strategic goals, provided that the findings of the specialist studies and the mitigation hierarchy are appropriately applied in project decision-making and implementation.

7.11 North West Province Spatial Development Framework

The North West Spatial Development Framework (NW SDF), gazetted in 2017 in terms of the Spatial Planning and Land Use Management Act, 2013, provides the statutory provincial spatial framework within which provincial development plans, programmes and projects must be considered.[43] The NW SDF promotes a spatial development pattern that supports regional development initiatives, development corridors, nodes and strategic infrastructure investment, while also requiring the protection of biodiversity, water resources and agricultural land. It further recognises the importance of economic infrastructure, including electricity networks and planned transmission power corridors, in supporting provincial growth and development.

[42] North West DEDECT Strategic Plan 2025-2030 (note 17 above).
[43] North West Spatial Development Framework (note 20 above).

In this context, the proposed powerline deviation is broadly aligned with the intent of the NW SDF insofar as it forms part of strategic electricity transmission infrastructure required to support energy security, economic functioning and longer-term service delivery within the province. At the same time, the NW SDF makes it clear that infrastructure development must be undertaken in a manner that is compatible with the protection of critical biodiversity areas, water resources, agricultural land and other natural constraints. The proposed deviation must therefore be considered not only as infrastructure of strategic importance, but also as a development that must demonstrate consistency with the NW SDF's principles of sustainability, integration and efficient spatial planning.

A further contextual consideration is that the NW SDF predates the current municipal configuration and accordingly refers to the former Tlokwe and Ventersdorp Local Municipalities within the Dr Kenneth Kaunda District implementation framework. For purposes of this application, those references should be understood as broadly corresponding to the present-day JB Marks Local Municipality area in which the deviation is located.

7.12 Municipal Integrated Development Plans

As part of the assessment of the need and desirability of the proposed development, it is important to consider the relevant Integrated Development Plans (IDPs) of the respective municipalities. This section outlines those aspects identified in the various municipal IDPs that may be relevant to the proposed project.

7.12.1 Dr Kenneth Kaunda District Municipality

The Dr Kenneth Kaunda District Municipality Integrated Development Plan (IDP) 2022-2027 (2025-2026 Review) is an important district-level planning instrument relevant to the proposed development.[44]

The IDP identifies a number of district functions and strategic priorities that are relevant to infrastructure-related developments, including integrated development planning, disaster management, municipal health services, community safety, environmental health, and broader infrastructure and service-delivery coordination. The IDP expresses a clear need for improved electricity supply stability and long-term energy security. In particular, the IDP identifies an urgent need for the establishment of a district electricity solar plant to reduce reliance on Eskom supply, records a Bulk Energy Programme on the basis that sustainable provision of electricity increases capacity for future development, and includes electricity and energy master planning within its list of infrastructure projects requiring unblocking. Collectively, these provisions indicate that reliable and sustainable electricity supply is regarded as a strategic development need within the district.

7.10. 2 Ngaka Modiri Molema District

The proposed Pluto-Mahikeng 400kV Powerline is broadly aligned with the development priorities identified in the Ngaka Modiri Molema District Municipality Draft IDP 2026/2027.[45] The IDP identifies Basic Service Delivery and Infrastructure Development, Local Economic Development, Good Governance and Public Participation, and the creation of a safe and healthy environment as key municipal performance areas and strategic priorities. Community consultation undertaken for the IDP further identified improved basic services, including electricity, water and sanitation, together with job creation, unemployment reduction, poverty alleviation and support for local businesses, as priority needs within the district.

Although the proposed powerline is not a municipal service-delivery project and only a very small portion of the deviation falls within Mahikeng Local Municipality, it supports the broader infrastructure and economic development objectives of the district by contributing to electricity transmission capacity, network reliability and future energy integration in the North West Province. The project is therefore consistent with the IDP's emphasis on infrastructure-led development, improved service reliability and the creation of an enabling environment for local and regional economic activity. During construction, further alignment with municipal

[44] Dr Kenneth Kaunda District Municipality, Integrated Development Plan 2022-2027 (2025-2026 Review) (note 15 above).
[45] Draft Ngaka Modiri Molema IDP 2026/2027 (note 14 above).

priorities can be supported through appropriate local labour, procurement and stakeholder engagement measures, where feasible.

7.12.2 JB Marks Local Municipality

The JB Marks Local Municipality Integrated Development Plan (IDP) 2022-2027 (2025-2026 Review) is a relevant municipal planning instrument for purposes of the proposed development.[46] The IDP notes that the municipality includes a substantial rural and agricultural component, together with the Potchefstroom urban area and the broader rural hinterland. This is relevant to the present assessment, as it confirms that development within the municipal area must be understood in relation to both urban service functions and a wider working agricultural landscape.

The IDP also identifies the municipality's core developmental priorities, which include responsive government, service provision, job creation, economic development, agriculture and rural development, water and sanitation, energy provision, safety and security, environment, and quality sustainable service delivery. These priorities, together with the municipality's key performance areas relating to infrastructure, local economic development, governance and spatial rationale, provide a useful local policy framework against which the proposed deviation may be considered.

The JB Marks IDP expresses a clear need for improved electricity supply stability, network resilience and long-term energy security. In particular, the municipality's Energy Plan identifies energy security as a key issue, seeks to reduce Eskom dependency, and aims to provide secure energy to all users. The Electrical Master Plan is expressly directed at network strengthening and expansion and at identifying N-1 contingency alternatives to ensure reliable electrical supply within the municipal area. In addition, the IDP recognises electricity-related service-delivery backlogs and commits budgetary attention to the repair, maintenance, refurbishment and upgrading of electricity infrastructure assets.

7.12.3 Mahikeng Local Municipality

The proposed Pluto-Mahikeng 400kV Powerline deviation is broadly aligned with the development priorities reflected in the Mahikeng Local Municipality Draft 3rd IDP Review 2025/2026.[47] The IDP identifies the municipality's core objectives as basic service delivery and infrastructure development, good governance and public participation, local economic development, spatial rationale, municipal transformation and organisational development, and financial viability. It also records that the IDP supports the District Development Model and One Plan, and is intended to create an enabling environment for economic growth and investment while responding to service-delivery priorities identified through public participation.

Although the proposed powerline is not a municipal service-delivery project, it supports the broader infrastructure and economic development objectives of Mahikeng Local Municipality by contributing to electricity transmission capacity, network reliability and future energy integration in the North West Province. The IDP specifically recognises the importance of infrastructure investment, basic service provision, economic growth and improved alignment between local, district, provincial and national planning. The project is therefore consistent with the municipality's emphasis on infrastructure-led development and the creation of conditions that support future investment and service reliability.

The IDP also highlights recurring community needs relating to electricity, roads, water, sanitation, high-mast lighting, job creation and local economic opportunities across a number of wards. While the deviation within Mahikeng Local Municipality is very limited in spatial extent, the project's construction phase can further support municipal priorities through appropriate stakeholder engagement, use of local labour and services where feasible, and careful management of construction-related disturbance. The proposed development is

[46] JB Marks Local Municipality Integrated Development Plan (IDP) 2022-2027 (2025-2026 Review) (note 12 above).
[47] Draft Mahikeng IDP 2025-2-26 (note 13 above).

therefore considered to be broadly compatible with the municipality's strategic direction, provided that localised social impacts are appropriately managed

8 SOCIO-ECONOMIC CONTEXT AND BASELINE DATA

This section outlines the socio-economic context within which the proposed project is to be developed. The baseline information presented here was compiled through a desktop review of available online sources, together with information provided by the Environmental Assessment Practitioner (EAP) and/or the Applicant.

The demographic and social service data referred to in this section was sourced primarily from Statistics South Africa Census 2022 data. It should, however, be noted at the outset that the Census 2022 process was affected by a range of exceptional challenges, including civil unrest, the lingering effects of COVID-19-related restrictions, and climate-related events such as flooding in certain parts of the country. These factors should be borne in mind when interpreting the data.[48]

8.1 Institutional arrangements

Table 3 provides a brief overview of the municipal governance arrangements relevant to the study area. As indicated, the proposed deviation falls within JB Marks Local Municipality, which is a Category B local municipality within the Dr Kenneth Kaunda District Municipality, and the Mahikeng Local Municipality within the Ngaka Modiri Molema District Municipality. Table 3 summarises the type of municipality, system of governance and number of wards.

Table 3: Institutional arrangements (municipalities within the proposed development area)

Municipality	System of governance	Number of wards
Dr Kenneth Kaunda District Municipality	Executive Mayor and Council	84
JB Marks Local Municipality	Executive Mayoral System	34
Ngaka Modiri Molema District	Executive Mayor and Council	103
Mahikeng Local Municipality	Executive Mayor and Mayoral Committee	35

Source: IDPs for Dr Kenneth Kaunda and Ngaka Modiri Molema Districts, and JB Marks and Mahikeng Local Municipalities

8.2 Population, race and gender profile

Table 4: Population demographics data

Population demographics	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
Total population (2022)	3 804 548	734 203	212 670	937 723	354 504
% change since 2011	8.4%	5.5%	-3.1%	11.3%	21.6%
% young children (0–14 years)	28.3%	26.8%	25.4%	30.6%	28.9%
% change since 2011	-4.4%	-6.0%	-7.3%	-8.1%	-6.2%

48 Media release: Census 2022 Population Count Results 10 October 2022 https://www.statssa.gov.za/?p=16716 (accessed 9 April 2026).

Population demographics	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
% working-age population (15–64 years)	65.5%	66.8%	68.0%	63.1%	66.0%
% change since 2011	1.2%	1.2%	1.8%	3.8%	2.5%
Elderly (65+ years)	6.2%	6.5%	6.5%	6.3%	5.2%
% change since 2011	10.7%	18.2%	12.1%	6.8%	8.3%
Dependency ratio	52.7	49.7	47.0	58.5	51.6
Sex ratio	98.2	93.9	93.3	95.7	96.6
Brief analysis:	The Stats SA Census 2022 data indicates population growth at provincial and district level, but with different trends at local municipal level. Between 2011 and 2022, the population of North West Province increased by about 8.4%, Dr Kenneth Kaunda District by about 5.5%, and Ngaka Modiri Molema District by about 11.3%. Mahikeng Local Municipality recorded stronger growth, increasing from 291 527 people in 2011 to 354 504 in 2022, or about 21.6%. By contrast, JB Marks Local Municipality declined by about 3.1% over the same period. This indicates that demographic change across the broader study area is uneven, with Mahikeng functioning as a growing local centre within the Ngaka Modiri Molema District, while JB Marks shows localised population decline within the Dr Kenneth Kaunda District context. The age structure shows a consistent shift across all five areas. The proportion of young children declined between 2011 and 2022, while the working-age and elderly shares generally increased. In Ngaka Modiri Molema, the child population declined from 33.3% to 30.6%, while the working-age population increased from 60.8% to 63.1% and the elderly population increased from 5.9% to 6.3%. In Mahikeng, the same pattern is evident, with young children declining from 30.8% to 28.9%, the working-age population increasing from 64.4% to 66.0%, and the elderly population increasing from 4.8% to 5.2%. This points to a gradually maturing population profile, although both Mahikeng and Ngaka Modiri Molema still retain a sizeable child and youth component. The dependency ratio remains highest in Ngaka Modiri Molema District at 58.5, compared with 51.6 in Mahikeng, 52.7 in North West Province, 49.7 in Dr Kenneth Kaunda District and 47.0 in JB Marks. This indicates a comparatively higher dependent population relative to the working-age population in Ngaka Modiri Molema, which is relevant to social vulnerability, household support needs and expectations relating to service delivery and economic opportunities. Mahikeng's dependency ratio is lower than the district average, but still slightly higher than Dr Kenneth Kaunda District and JB Marks.				

Source: Stats SA Census 2022

8.3 Housing and living conditions

Table 5: Housing and living conditions

Housing and living conditions	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
Number of households	1 141 291	220 146	66 719	257 552	104 648
% change since 2011	7.5%	5.8%	-0.6%	13.5%	24.2%

Housing and living conditions	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
Average household size	3.3	3.3	3.2	3.6	3.4
% change since 2011	0.0%	0.0%	-3.0%	-2.7%	-2.9%
Formal dwellings	88.0%	89.3%	84.4%	91.1%	93.5%
% change since 2011	15.5%	9.7%	7.5%	10.2%	7.1%
Flush toilets connected to sewerage	58.5%	88.3%	80.2%	47.7%	50.8%
% change since 2011	28.9%	1.8%	6.4%	51.9%	57.3%
Weekly refuse disposal service	53.5%	78.7%	75.1%	31.0%	34.6%
% change since 2011	9.9%	4.5%	31.5%	-12.4%	-42.1%
Access to piped water in the dwelling	43.3%	58.4%	57.7%	38.3%	44.2%
% change since 2011	47.8%	21.9%	18.0%	52.0%	43.0%
Electricity for lighting	93.9%	92.1%	89.8%	94.5%	97.0%
% change since 2011	11.8%	4.0%	2.7%	17.5%	14.8%

Brief analysis:

The Stats SA Census 2022 data shows growth in household numbers at provincial, district and Mahikeng level, but a slight decline in JB Marks Local Municipality. Between 2011 and 2022, the number of households increased by 7.5% in North West Province, 5.8% in Dr Kenneth Kaunda District, 13.5% in Ngaka Modiri Molema District and 24.2% in Mahikeng Local Municipality. By contrast, JB Marks declined slightly by 0.6%, which is broadly consistent with the population decline already identified for that municipality.

Average household size remains relatively stable across the study areas, although Ngaka Modiri Molema and Mahikeng have slightly larger household sizes than JB Marks. In 2022, the average household size was 3.6 in Ngaka Modiri Molema District and 3.4 in Mahikeng, compared with 3.3 in North West Province and Dr Kenneth Kaunda District and 3.2 in JB Marks. This suggests that household structures in the Ngaka Modiri Molema and Mahikeng context remain somewhat larger than those in the Dr Kenneth Kaunda and JB Marks context.

The data points to a general improvement in formal housing across all five geographic areas. In 2022, formal dwellings accounted for 93.5% of households in Mahikeng and 91.1% in Ngaka Modiri Molema District, which is higher than the provincial average of 88.0% and higher than JB Marks at 84.4%. This suggests that, despite broader service-delivery constraints, Mahikeng and Ngaka Modiri Molema have relatively high levels of formal dwelling provision.

Access to sanitation and refuse removal is more uneven. In 2022, flush toilets connected to sewerage were available to 50.8% of households in Mahikeng and 47.7% in Ngaka Modiri Molema District, compared with 88.3% in Dr Kenneth Kaunda District and 80.2% in JB Marks. Weekly refuse disposal was also substantially lower in Mahikeng and Ngaka Modiri Molema, at 34.6% and 31.0% respectively, compared with 78.7% in Dr Kenneth Kaunda District and 75.1% in JB Marks. These indicators suggest that formal sanitation and municipal refuse removal remain important service-delivery constraints in the Ngaka Modiri Molema and Mahikeng context.

Access to piped water in the dwelling has improved since 2011 but remains lower in Ngaka Modiri Molema District and Mahikeng than in Dr Kenneth Kaunda District and JB Marks. In 2022, access to piped water in the dwelling was 38.3% in Ngaka Modiri Molema District and 44.2% in Mahikeng, compared with 58.4% in Dr Kenneth Kaunda District and 57.7% in

Housing and living conditions	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
	JB Marks. Access to electricity for lighting is, however, comparatively high across all areas, reaching 94.5% in Ngaka Modiri Molema and 97.0% in Mahikeng. Overall, the data reflects improved housing formality and strong household electrification, but also highlights persistent localised service-delivery gaps in relation to piped water, sanitation and refuse removal.				

Source: Stats SA Census 2022

8.4 Education and employment levels

Table 6: Education levels progress since the last Census

Education levels	North West Province	Dr Kenneth Kaunda District	JB Marks Local Municipality	Ngaka Modiri Molema District Municipality	Mahikeng Local Municipality
No schooling (20+ years)	7.9%	6.9%	6.3%	10.6%	7.0%
% change since 2011	-33.1%	-31.0%	-33.0%	-37.6%	-32.0%
Higher education (20+ years)	7.5%	9.2%	11.0%	8.5%	13.6%
% change since 2011	1.4%	1.1%	-5.2%	7.6%	11.5%
Brief analysis:	The Stats SA Census 2022 data indicates a general improvement in basic educational attainment across the broader study area between 2011 and 2022. In all five areas, the proportion of adults aged 20 years and older with no schooling declined. In Ngaka Modiri Molema District Municipality, the proportion declined from 17.0% in 2011 to 10.6% in 2022, while in Mahikeng Local Municipality it declined from 10.3% to 7.0%. This indicates a reduction in extreme educational deprivation, although Ngaka Modiri Molema District still records the highest share of adults with no schooling among the areas compared. The picture for higher education is generally positive, although not uniform. The proportion of adults aged 20 years and older with higher education increased from 7.9% to 8.5% in Ngaka Modiri Molema District Municipality and from 12.2% to 13.6% in Mahikeng Local Municipality. Mahikeng therefore has the strongest higher-education profile among the local municipalities included in the comparison, exceeding JB Marks at 11.0% and the district and provincial averages. This is consistent with Mahikeng's role as a provincial administrative and service centre. By contrast, Ngaka Modiri Molema District Municipality remains closer to the provincial profile, with higher education at 8.5% compared with 7.5% in North West Province and 9.2% in Dr Kenneth Kaunda District. This suggests that while educational outcomes have improved at district level, the broader district remains more educationally vulnerable than Mahikeng itself. From a social baseline perspective, the data suggests that Mahikeng Local Municipality has a comparatively stronger skills base and lower levels of adult educational deprivation than the broader Ngaka Modiri Molema District. However, the district-level figures indicate that educational vulnerability remains relevant in the broader regional context. This is important when considering employment expectations, skills availability and the likely need for realistic local labour and procurement commitments during project implementation.				

Source: Stats SA Census 2022

Table 7: Labour force characteristics (Q4:2025)

	RSA Q4 2024	North West Q4 2024	RSA Q4 2025	North West Q4 2025	Year-on-year change (North West)
Population of working age (15-64 years)	41 561	2 817	42 068	2 851	+35 (+1.2%)
Number of employed persons	17 078	935	17 099	973	+38 (+4.1%)
Unemployment rate (official definition)	31.9%	41.3%	31.4%	35.1%	-6.2 pp
Brief analysis:	The labour force data points to a mixed but generally improved picture in North West Province between Q4 2024 and Q4 2025. The working-age population (15-64 years) increased modestly at both national and provincial level, rising from 41.561 million to 42.068 million in South Africa and from 2.817 million to 2.851 million in North West. This means the labour market had to absorb a slightly larger working-age population over the period. In employment terms, the national picture was relatively flat, with the number of employed persons increasing only marginally from 17.078 million to 17.099 million. By contrast, North West recorded a stronger improvement, with employment increasing from 935 000 to 973 000, a year-on-year gain of 38 000 jobs. This translated into an increase in the provincial absorption rate from 33.2% to 34.1%, although this remained well below the national absorption rate of 40.6% in Q4 2025. The most notable improvement is reflected in the official unemployment rate. Nationally, the unemployment rate declined slightly from 31.9% to 31.4%, while North West showed a much larger decline, from 41.3% to 35.1%, representing a 6.2 percentage-point improvement over the year. This suggests that labour market conditions in North West improved materially over the period. However, the province still recorded an unemployment rate that was substantially higher than the national average, which indicates that unemployment remains a serious structural challenge in the province. It is also important to interpret the North West improvement with some caution. Although employment increased, the provincial labour force declined from 1.593 million to 1.500 million, while the number of people outside the labour force increased from 1.224 million to 1.352 million. This suggests that the improved unemployment rate reflects not only more employment, but also a growing number of working-age people who were no longer counted within the labour force. In other words, the labour market position improved, but the province still appears to have relatively weak labour market participation compared with the country as a whole.				

Source: Stats SA Quarterly Labour Force Survey Q4: 2025

8.5 Safety and security

The available district and local municipal planning documents indicate that safety and security are relevant baseline considerations in the receiving environment, although the information is framed partly in terms of perceptions of safety, community-raised concerns and municipal service-delivery responses, rather than only detailed SAPS crime statistics. At district level, the Dr Kenneth Kaunda District Municipality IDP records generally low perceptions of safety after dark, noting that an average of 64% of people across the district feel very unsafe in the dark, with particularly high levels recorded in Matlosana and Maquassi Hills. [49] The district IDP also reflects related social-response measures, including youth health, safety and crime prevention programmes and broader community-based safety and awareness initiatives.

[49] Dr Kenneth Kaunda District Municipality, Integrated Development Plan 2022-2027 (2025-2026 Review) (note 15 above).

At local level, the JB Marks Local Municipality IDP shows that residents frequently associate safety concerns with the condition and management of the built environment.[50] Ward-level issues repeatedly include non-functioning street lights and high mast lights, dark public spaces, cable theft, illegal dumping, poor road conditions, deteriorated public infrastructure, overgrown or poorly maintained areas, and requests for visible policing. In some instances, the IDP expressly records that poor lighting contributes to thefts and burglaries, while other entries emphasise the need for safer pedestrian environments, traffic calming, improved road maintenance and better municipal response to service complaints. Taken together, these factors suggest that safety and security concerns in the Dr Kenneth Kaunda / JB Marks portion of the study area are closely linked to infrastructure condition, visibility, public-space maintenance and the effectiveness of municipal service delivery.

The Ngaka Modiri Molema District Municipality Draft IDP similarly identifies safety and security as part of the district's municipal functions, referring to "Municipal Health Services and Safety", including disaster, fire and security. The IDP also lists "lack of security", lack of community ownership to safeguard assets, poor or non-compliant fire station capacity, adverse disaster impacts and inadequate rural roads maintenance among the district's top risks. In addition, the IDP includes SAPS third-quarter crime statistics for October to December 2023/24, which indicate that contact crimes against the person increased by 14.2% compared with the same period in the previous year. The most notable increases recorded in the IDP relate to robbery with aggravating circumstances, assault with intent to inflict grievous bodily harm and common robbery, while sexual offences are recorded as having decreased over the same comparative period. The IDP nevertheless treats gender-based violence as a significant social concern and emphasises the need for strengthened GBVF prevention, victim-support and interdepartmental response measures.

At local level, the Mahikeng Local Municipality IDP records safety and security as a prominent community concern. The IDP states that there are five police stations in the municipal area, namely Mmabatho, Mahikeng, Mooifontein, Ottoshoop and Lomanyaneng, and notes that crime and security are perceived to be the second-biggest problem in Mahikeng, with the need for police stations and improved safety identified as an important municipal priority. The IDP also identifies public safety as a municipal key performance area, including disaster management, law enforcement, fire brigade services, security management and the proposed establishment of a Community Safety Forum to support a multi-sectoral approach to community safety. Ward-level inputs further reflect repeated requests for high-mast lights, street-light maintenance, de-bushing, clearing of illegal dumping sites, satellite police stations, CPF support, crime-prevention resources, substance-abuse interventions and responses to cable theft and stock theft.

Overall, the safety and security baseline indicates that crime, perceived safety, infrastructure condition and public-space management are interrelated concerns across the regional and local study area. In both the Dr Kenneth Kaunda/JB Marks and Ngaka Modiri Molema/Mahikeng contexts, municipal planning documents link community safety concerns to visible policing, lighting, road and public-space maintenance, illegal dumping, infrastructure vandalism, cable theft and disaster-response capacity. Although the proposed powerline deviation is not expected to create broad municipal-scale safety impacts, construction-phase activities should be managed to avoid worsening local safety concerns, particularly through controlled site access, careful management of construction personnel and contractors, clear communication with affected landowners and occupiers, protection of property and livestock infrastructure, and prompt response to complaints.

8.6 Access to medical facilities

Access to public healthcare facilities in the broader study area is anchored mainly in the Potchefstroom/Tlokwe and Ventersdorp parts of JB Marks Local Municipality, with higher-order hospital services concentrated in the larger urban centres and clinic-level services extending into smaller settlements

[50] JB Marks Local Municipality Integrated Development Plan (IDP) 2022-2027 (2025-2026 Review) (note 12 above).

and surrounding rural areas. The JB Marks IDP confirms that the municipality includes the Potchefstroom/Tlokwe area, the Ventersdorp area, several villages and a wider rural hinterland, while the Dr Kenneth Kaunda District IDP records a number of health-facility upgrading and maintenance projects relevant to the district and to JB Marks in particular. These include work at Potchefstroom Hospital, Witrand Hospital, Steve Tshwete Clinic, and the Ventersdorp Bulk Pharmacy, together with broader clinic revitalisation and maintenance interventions. Taken together, the IDPs suggest that this part of the study area has access to an established public healthcare platform, although continued upgrading, maintenance and service support remain important planning needs.

In the Ngaka Modiri Molema / Mahikeng portion of the regional study area, Mahikeng functions as an important provincial and district service centre. The Mahikeng Local Municipality IDP records that Mahikeng Provincial Hospital and Bophelong Psychiatric Hospital are managed by the North West Department of Health, while Victoria Private Hospital also operates in the municipal area. The IDP further identifies Mahikeng Provincial Hospital, Bophelong Psychiatric Hospital, Gelukspan Hospital and Victoria Private Hospital as hospital facilities serving the municipal area, and records that these facilities are accessible to the community on a 24-hour basis.

Primary healthcare access in Mahikeng is provided through a network of clinics, community health centres and mobile clinic services. The Mahikeng IDP records that the municipality is served by 28 clinics and community health centres, together with mobile clinics that service rural wards where there are no fixed clinics. The IDP also notes that, during public consultations, community members requested that clinics operate on a 24-hour basis, indicating that while clinic infrastructure is present, service hours and accessibility remain important community concerns.

At district level, the Ngaka Modiri Molema District Municipality IDP identifies health-related and social-service interventions as part of the broader service-delivery environment. The IDP records that the Thuntsha Lerole programme includes social services such as health screening, and notes the official opening of the Weltevreden Clinic to provide integrated primary healthcare. It also identifies the ongoing construction of the Delareyville Bulk Pharmacy as a health-infrastructure intervention intended to strengthen medicine supply in the local municipal area.

Overall, the available IDP information indicates that the regional study area has access to established healthcare services, with higher-order hospital services concentrated in larger urban centres such as Potchefstroom and Mahikeng, and clinic-level services extending into surrounding rural and peri-urban areas. However, the planning documents also indicate ongoing needs relating to facility maintenance, healthcare infrastructure support, mobile and rural access, medicine-supply infrastructure, and extended clinic operating hours. For purposes of the SIA, this suggests that the proposed deviation is located within a broader regional context where healthcare infrastructure exists, but where service accessibility and continued upgrading remain relevant social baseline considerations.

8.7 Land use and human settlements

The deviation portion is located within a predominantly rural agricultural landscape characterised mainly by commercial farming land uses, including dryland cultivation, grazing land and associated farm infrastructure. The area is comprised of farm portions rather than urban or settlement land, with only scattered farmsteads and isolated rural structures present. There is no indication that the deviation traverses a densely settled area. In land-use terms, it is therefore best understood as a working farming landscape, where the main sensitivities relate to agricultural production, farm access and property-level occupation rather than formal human settlements.

It should also be noted that the full project footprint is located within a strategic transmission corridor identified in a Strategic Transmission Corridor identified in Government Notice No. 113, published in Government Gazette No. 41445 of 16 February 2018 (GN 113). This indicates that the broader receiving

environment has been identified as being of strategic importance for large-scale electricity transmission and distribution infrastructure. From a social perspective, this supports the need and desirability of the proposed powerline deviation at a strategic planning level, particularly in relation to electricity transmission capacity and network reliability. However, the corridor designation does not remove the need to assess and manage site-specific social impacts, including impacts on affected landowners, occupiers, agricultural activities, property access, construction disturbance, safety and security, and complaints management.

A freshwater walkdown assessment was conducted between 16 and 27 March 2026 using drone-assisted surveys.[51] No wetlands or watercourses were identified between Towers 452 and 499, which represents a positive finding for the majority of the deviation corridor. The Mooi River crosses the servitude alignment at Towers 500-501 and has been confirmed as a perennial watercourse with HIGH ecological sensitivity and a PES rating of B/C. The full 100m servitude width at this location falls within the direct impact area. The Mooi River is the most sensitive freshwater feature within the deviation section. A parallel construction project – the Watershed-Pluto 275kV line from Tower 271 to Pluto Substation – has been identified as a source of cumulative aquatic impact, rated moderate to high without enhanced mitigation.

A nine-day avifauna walkdown was conducted between 16 and 26 March 2026.[52] Three threatened vulture species were confirmed within the study area: White-backed Vulture, Cape Vulture and Lapped-faced Vulture. A significant White-backed Vulture colony is present approximately 40km west/south-west of the alignment near Mareetsane. Collision risk is confirmed at watercourses, drainage lines, grasslands and near vulture roost areas. No electrocution risk arises from the 400kV line given the structural clearances. No raptor nests were identified during the walkdown; the specialist recommends a pre-construction nest survey.

A Phase I archaeological and cultural heritage walkdown was conducted between 16 and 27 March 2026 covering 252km of the alignment.[53] The following heritage resources were identified within the broader study area: burial site MBS01 (more than 12 graves including infant burials, granite headstones, evidence of ongoing visitation, HIGH heritage significance); additional dispersed graves; collapsed stone-walled structures with possible Iron Age associations; MSA stone tools near Tower 558 (MST01 and MST02); a decorated potsherd near Tower 449; historical farmhouses MFH01 and MFH02 approximately 140-150m from Tower 578; and derelict farmsteads, agricultural structures, water reservoirs and stone cairns. No significant archaeological sites fall within the immediate pylon footprints. Development may proceed from a heritage perspective subject to mandatory mitigation and SAHRA permit requirements.

A Visual Impact Assessment field site visit was conducted on 28 February 2026.[54] The study area is characterised by open Carletonville Dolomite Grassland with a small section of Rand Highveld Grassland in the deviation corridor. The landscape has a low Visual Absorption Capacity. This means that the proposed powerline is likely to be visible in the landscape and will not easily blend into its surroundings. Two private nature reserves are located directly south of the proposed deviation line: the Somerville Private Nature Reserve and the Fred Coetzee Private Nature Reserve. The landscape character sensitivity is rated moderate.

[51] Freshwater walkdown assessment, Maphaha, K.C. 2026 (note 28 above).

[52] Diamond, M. 2026. Mahikeng Main Transmission Substation & Pluto-Mahikeng 400kV Power Line: Site Specific Construction and Operational Environmental Management Programme Report (Avifauna). Feathers Environmental Services. Prepared for Vhubvo Archaeo-Heritage Consultants CC. 24 April 2026.

[53] Phase 1 archaeological and cultural heritage walkdown, Phillip, P. and Magoma, M. 2026 (note 29 above).

[54] Outline Landscape Architects cc. 2026. Basic Assessment for the Deviation of the 1 x 400kV Pluto-Mahikeng Powerline within JB Marks Local Municipality under the Dr Kenneth Kaunda District Municipality and Mahikeng Local Municipality within the Ngaka Modiri District Municipality, North West Province: Visual Impact Assessment. Prepared for Vhubvo Consulting on behalf of the National Transmission Company South Africa SOC Ltd. March 2026.

8.8 Land claims status

Pursuant to a land claims enquiry made by the Vhubvo on behalf of the Applicant, feedback is still awaited from the Office of the Regional Land Claims Commissioner: North West Province regarding whether any land claims are registered over the affected properties, including the Farms Nooitgedacht 69 IQ/0 and Nooitgedacht 69 IQ/3.

8.9 Comments received from I&APs

As part of the Public Participation Process conducted as part of this Application, landowners and other I&APs will be consulted and given an opportunity to formally comment on the draft Basic Assessment Report. These comments will be recorded in the final version of the SIA in this section of the report.

9 SOCIO-ECONOMIC IMPACT ASSESSMENT

This section outlines the following:

- The impact assessment methodology used.
- Assessment of the proposed project's compatibility with the prevailing/relevant policy and planning framework.
- Assessment of socio-economic issues associated with:
  - The construction phase.
  - The operational phase.
  - The decommissioning phase.
- Assessment of the 'no-go' alternative.
- Assessment of cumulative impacts.

9.1 Impact assessment methodology

The assessment of potential impacts for the proposed deviation has been undertaken using the impact assessment methodology prescribed by the Environmental Assessment Practitioner (EAP). In this approach, each identified impact is evaluated with reference to its **probability**, **duration**, **scale**, **magnitude/severity** and **reversibility**, after which an overall **significance** rating is assigned. The methodology is intended to provide a consistent and transparent basis for comparing anticipated impacts before and after mitigation, and for identifying those impacts that may require specific management measures, further design response or ongoing monitoring.

The significance of the impacts will be determined through a synthesis of the criteria below:

Probability: This describes the likelihood of the impact actually occurring

Improbable: The possibility of the impact occurring is very low, due to the circumstances, design or experience.

Probable: There is a probability that the impact will occur to the extent that provision must be made therefore.

Highly Probable: It is most likely that the impact will occur at some stage of the development.

Definite: The impact will take place regardless of any prevention plans and there can only be relied on mitigatory measures or contingency plans to contain the effect.

Duration: The lifetime of the impact

Short Term: The impact will either disappear with mitigation or will be mitigated through natural processes in a time span that is as long as the activity

Medium Term: The impact will last up to the end of the phases, where after it will be negated.

Long Term: The impact will last for the entire operational phase of the project, but will be mitigated by direct human action or by natural processes thereafter.

Permanent: The impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Scale: The physical and spatial size of the impact

Local: The impacted area extends only as far as the activity, e.g. the footprint.

Site: The impact could affect the whole, or a measurable portion of the above-mentioned properties.

Regional: The impact could affect the area including the neighbouring district areas.

Magnitude / Severity: Does the impact destroy the environment, or alter its function?

Low: The impact alters the affected environment in such a way that natural processes are not affected.

Medium: The affected environment is altered, but functions and processes continue in a modified way.

High: Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required

Negligible: The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.

Low: The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.

Moderate: The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.

High: The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

Table 8:Weights assigned to each attribute

Aspect	Description	Weight
Probability	Improbable	**1**
	Probable	**2**
	Highly Probable	**4**
	Definite	**5**
Duration	Short term	**1**
	Medium term	**3**
	Long term	**4**

Aspect	Description	Weight
	Permanent	**5**
Scale	Local	**1**
	Site	**2**
	Regional	**3**
Magnitude / Severity	Low	**2**
	Medium	**6**
	High	**8**
Reversibility	With no time and cost	**1**
	With little time and cost	**2**
	With significant time and cost	**3**
	With prohibitively high time and cost	**4**
	Irreversible	**5**
Significance	**SUM (Duration, Scale, Magnitude) x Probability**	
	Negligible Impact	<=3
	Low Impact	>3; and <=10
	Moderate Impact	>10; and <=16
	High Impact	>16

A preliminary list of potential social impacts that may result from the proposed project, along with significance ratings before and after mitigation is provided in this section (see Table 9).

9.2 Assessment of compatibility with the policy and planning framework

The proposed Pluto-Mahikeng powerline deviation is broadly compatible with the applicable policy and planning framework. At a strategic level, it aligns with current national and provincial policy support for strengthening electricity transmission infrastructure to improve energy security, support economic activity and enable longer-term service delivery outcomes. The national policy context has also evolved since the original social assessment, with the Integrated Resource Plan 2025 expressly incorporating transmission infrastructure and grid planning, and identifying the Transmission Development Plan (TDP) as a key basis for investment in transmission infrastructure and the identification of network bottlenecks and future infrastructure needs.

At provincial level, the project is generally consistent with the strategic direction set by the North West Office of the Premier Strategic Plan 2025-2030 and the North West Spatial Development Framework, both of which support coordinated infrastructure investment, improved service delivery, and the role of strategic infrastructure in enabling socio-economic development. The NW SDF in particular recognises the importance of economic infrastructure, including electricity networks and planned transmission power corridors, while also requiring that development be undertaken in a manner that protects biodiversity, water resources, agricultural land and other spatial constraints.

The proposed deviation can therefore be regarded as compatible with the policy and planning framework in principle. That compatibility is, however, subject to the qualification that the deviation must still demonstrate acceptable site-specific performance in relation to local land use, agricultural, biodiversity, water-related and social considerations. Strategic policy support for transmission infrastructure does not override the need to avoid, minimise and manage localised impacts within the receiving environment.

9.3 Assessment of alternatives

In accordance with NEMA and the EIA Regulations, applications for environmental authorisation must include consideration of reasonable and feasible alternatives to the proposed activity. Depending on the nature of the application, these may include the no-go alternative, alternative alignments, technologies or design options that may avoid, reduce or otherwise manage significant impacts on the biophysical and socio-economic environment.

9.3.1 No-go alternative

For the purposes of this application, the no-go alternative refers to not authorising the proposed deviation section that is now subject to the Basic Assessment process, rather than to abandonment of the broader Pluto-Mahikeng transmission project as a whole. This distinction is important because the wider project has already been authorised, and the present application relates specifically to a revised alignment outside the previously approved corridor.

From a social perspective, the no-go alternative would avoid the localised impacts associated with the proposed deviation. These include disruption to agricultural operations, access arrangements, livestock and game management, and construction-related impacts such as traffic, dust, fire risk and possible damage to farm infrastructure. In this respect, the no-go alternative would avoid the direct property-level impacts identified for the deviation area.

However, the no-go alternative would also mean that the deviation required to accommodate route refinement and servitude-related constraints would not be authorised. This could delay implementation of the affected section of the broader transmission line, create further route planning uncertainty, or require reconsideration of other alignment options. The no-go alternative would therefore avoid impacts in the deviation area, but would not remove the underlying need for transmission infrastructure or necessarily eliminate the need for an alternative workable route.

On balance, the no-go alternative is not considered preferable from a social perspective, provided that the proposed deviation can be implemented with appropriate mitigation and management measures. While the no-go option would avoid localised impacts within the deviation area, it may also undermine the practical implementation of infrastructure that remains strategically important, and could simply shift impacts elsewhere rather than avoiding them altogether.

9.3.2 Alignment alternatives

In the present application, the relevant alignment alternatives are the previously approved route and the proposed deviation route. The broader transmission line has already been authorised, and the current BA therefore concerns a localised route refinement rather than a new route selection process. The servitude negotiation record indicates that the deviation emerged in response to property-specific constraints, including restrictions on line position, pylon placement and the need to reduce impact on farming operations. The proposed deviation can therefore be regarded as a practical alternative to the approved alignment for this section of the line, although it must still be assessed on its own merits in relation to the social and land use impacts arising within the deviation area.

9.3.3 Technological and design alternatives

Various tower configurations were considered for the proposed alignment in order to respond to differing technical and environmental conditions. These include guyed VEE suspension towers, self-supporting

suspension towers and angle strain towers (see Figure 2). The final selection of tower types is being confirmed during the detailed design phase, with preference generally being given to:

- Self-supporting or more compact tower designs in constrained or sensitive areas.
- Tower types with smaller footprints in proximity to settlements, farm infrastructure or cultivated land.
- Tower heights that provide the required ground clearance while, where feasible, limiting unnecessary visual intrusion.

Although alternative transmission technologies such as underground cabling were not considered practical for this type of long-distance transmission infrastructure, due primarily to cost and technical constraints, the use of different tower configurations remains an important design response for reducing potential social impacts.

9.3.4 Servitude width alternatives

The typical servitude width for a 400 kV transmission line generally ranges from approximately 55 m to 90 m, depending on factors such as terrain, tower configuration and the safety clearances required. In socially sensitive areas, including those near homesteads, community facilities or cultivated land, the servitude requirements should, where technically feasible, be kept to the minimum necessary, without compromising safety or operational performance.

Although the assessment is based on the previously authorised alignment corridor, route refinements and design-related alternatives have been considered in order to reduce potential adverse social impacts. The no-go alternative would avoid the impacts associated with the deviation itself, but is not considered a preferred option in light of the broader need for transmission strengthening in the area. Ongoing engagement with affected stakeholders, landowners and relevant authorities continues to inform refinement of the project, with the aim of achieving an appropriate balance between infrastructure development and the interests and wellbeing of affected communities.

9.4 Construction phase socio-economic impacts

The construction phase is expected to give rise to a mix of positive and negative socio-economic impacts. The positive impacts relate mainly to short-term employment, skills development, procurement and business opportunities. The negative impacts are expected to be concentrated at property level and to arise primarily from the interaction between construction activities and the existing agricultural land uses within the deviation area. These include disruption to agricultural operations, access and gate control issues, damage to farm infrastructure, traffic and safety risks, dust, fire risk, non-compliance with the approved servitude, and inadequate communication with affected land users and occupiers.

9.4.1 Employment, skills development, procurement and business opportunities

The construction phase is expected to create a limited number of temporary employment opportunities, together with associated procurement and business opportunities for local suppliers and service providers. In the absence of enhancement measures, the significance of this positive impact is assessed as **Low positive**. With the implementation of appropriate enhancement measures, including preferential local recruitment, support for local procurement and targeted inclusion of Black African people, women and youth, the significance of the impact is assessed as **Moderate positive**. This improvement reflects the increased likelihood that local communities and businesses will benefit from the project during the construction period.

Enhancement measures should include prioritising local employment where reasonably possible, advertising vacancies locally, ensuring fair labour practices, promoting participation by local BBBEE-compliant enterprises, and implementing on-the-job training where feasible.

9.4.2 Increased demand for low-cost housing and municipal services

A temporary increase in demand for low-cost accommodation and basic municipal services may arise if construction workers are brought in from outside the immediate area. However, given the relatively limited workforce expected for this deviation and the short-term nature of the construction phase, this impact is assessed as **Negligible negative** before mitigation and remains **Negligible negative** after mitigation. The impact can be managed through a combination of local recruitment and suitable accommodation, transport and worker management arrangements where non-local workers are required.

9.4.3 Strain on community health and safety services

Construction activities and the presence of temporary workers can create community health and safety risks, including the potential for increased pressure on local health and safety services, behavioural conflict, and concerns relating to communicable disease awareness and worker conduct. This impact is assessed as **Low negative** before mitigation and remains **Low negative** after mitigation, largely because the consequence of the impact can be significant if it occurs, even though the probability is reduced through management measures.

Mitigation should include prioritising local labour where possible, implementation of a contractor code of conduct, HIV/AIDS and TB awareness measures, and the maintenance of an accessible communication and grievance mechanism throughout the construction phase.

9.4.4 Influx of jobseekers

The prospect of temporary employment may attract work-seekers to the area. In the context of this project, however, the expected scale of the workforce is limited and the project is not anticipated to act as a major driver of in-migration. The impact is therefore assessed as **Negligible negative** before and after mitigation. The principal management response is to avoid informal or “walk-in” recruitment practices and to communicate employment opportunities through controlled and transparent recruitment processes.

9.4.5 Agricultural operations, land access and property-related impacts

The most important negative construction-phase impacts are those affecting directly affected landowners and occupiers. These include disruption to agricultural operations, including livestock and game management; access control, farm security and conflict with land users or occupiers; and damage to farm infrastructure and property. These impacts arise because the deviation is located within a working agricultural landscape and construction activities will necessarily interface with existing farming operations, access arrangements, fencing, tracks, pipelines, gates and related infrastructure.

Of these impacts, access control, farm security and conflict with land users / occupiers is assessed as the most significant before mitigation, with a **High negative** significance. This reflects the sensitivity of the receiving environment and the importance of controlled access and gate management on affected farms. With appropriate mitigation, including agreed access routes, use of approved gates and tracks only, maintenance of access registers where relevant, advance communication with occupiers and tenants, and implementation of a grievance procedure, the residual significance is reduced to **Negligible negative**.

The impacts associated with disruption to agricultural operations and damage to farm infrastructure and property are both assessed as **Low negative** before mitigation and **Negligible negative** after mitigation. These impacts can be effectively reduced through property-specific access planning, temporary stock-control measures where necessary, prompt reinstatement of disturbed areas, prior identification of sensitive infrastructure, and repair or replacement of any construction-related damage.

9.4.6 Construction disturbance, traffic, fire risk and communication

Additional construction-phase impacts relate to safety risks associated with construction vehicles and plant movement, dust and general construction nuisance, fire risk, non-compliance with the approved servitude footprint, and inadequate communication during construction. These impacts are all assessed as **Low**

negative before mitigation and **Negligible negative** after mitigation, with the exception of access-related impacts discussed above.

These impacts can be reduced through practical construction controls, including speed limits, use of approved access routes only, dust suppression where required, induction of drivers and contractors on site-specific rules, a fire prevention and response plan, pegging and monitoring of the approved servitude footprint, and the appointment of a designated contact person to maintain communication with affected land users and occupiers.

Overall, the construction phase gives rise to a number of negative property-level and nuisance-related impacts, most of these can be reduced to **Negligible negative** significance through appropriate mitigation and contractor control. The main residual **positive** impact of the construction phase relates to short-term employment and procurement opportunities.

9.5 Operational phase socio-economic impacts

The operational phase will be characterised by relatively limited on-site activity, consisting mainly of routine inspection and maintenance, vegetation management within the servitude, and occasional emergency repair access. Compared with the construction phase, the operational phase is expected to result in fewer direct socio-economic impacts. Two principal positive impacts are anticipated during the operational phase, namely limited employment and procurement-related benefits, and the strengthening of energy supply.

9.5.1 Employment, skills development, procurement and business opportunities

The operational phase is not expected to create significant new employment opportunities, as routine operation and maintenance activities will largely be undertaken by existing NTCSA personnel and established service providers. Any additional employment, skills development, procurement or business opportunities are therefore expected to be limited in scale. Accordingly, this impact is assessed as **Negligible positive** before and after enhancement.

Where opportunities do arise, they should be allocated in a manner that continues to prioritise local participation, fair labour practices and, where feasible, the involvement of local BBBEE-compliant enterprises.

9.5.2 Strengthening energy supply

The most significant positive operational-phase impact is the role of the proposed deviation in supporting the broader transmission function of the Pluto-Mahikeng line and thereby contributing to a more stable and reliable electricity supply. This impact is assessed as **Moderate positive** before mitigation and remains **Moderate positive** after mitigation, reflecting the strategic and long-term benefits associated with improved transmission infrastructure.

From a socio-economic perspective, a more reliable electricity supply supports broader development objectives by reducing the risk of electricity disruptions and contributing to improved service delivery, economic activity and infrastructure resilience in the wider region.

9.6 Potential cumulative impacts

Cumulative impacts arise where the effects of the proposed deviation interact with those of existing, approved or reasonably foreseeable developments in the wider area. In the present case, the cumulative impact assessment is important because the proposed deviation does not occur in isolation. The screening report confirms a broader development context that includes multiple approved solar PV developments within 30 km of the proposed site, while the project itself forms part of a wider strategic transmission network.

From a social perspective, the cumulative impacts of the proposed deviation are expected to be concentrated mainly in relation to temporary economic opportunities, potential pressure on housing and services during construction, and community health, safety and security risks associated with overlapping construction activity. Given the relatively limited scale and localised nature of the deviation itself, the project is unlikely on its own to generate major cumulative social effects. However, where construction or operation overlaps spatially or temporally with other infrastructure or energy developments in the area, the overall magnitude of certain impacts may increase.

9.6.1 Employment, skills and economic opportunities

The proposed deviation may contribute positively, in combination with other developments in the area, to short-term employment, skills development and procurement opportunities. Where multiple projects are underway within the same broad region, local businesses may benefit from increased demand for accommodation, catering, transport, security, materials and general support services. In a high-unemployment context, this may result in cumulative positive socio-economic benefits, particularly if developers make a concerted effort to prioritise local labour and procurement.

The cumulative significance of this impact is therefore considered to be **Low positive**, on the basis that the project may make an incremental contribution to wider economic activity, but is unlikely to be a major driver of employment or local economic transformation on its own. The extent to which cumulative benefits are realised will depend largely on the procurement strategies and labour practices adopted across projects in the area, and on whether local businesses and workers are meaningfully included in project-related opportunities.

Enhancement measures should therefore include continued prioritisation of local employment where feasible, targeted support for local procurement, and transparent recruitment practices that improve access to project-related opportunities for affected and surrounding communities.

9.6.2 Influx, housing and demand for municipal services

Where several projects occur in the same area over a similar time period, there is greater potential for cumulative pressure on local housing availability, basic services and municipal infrastructure. Influx-related impacts may arise where project-related employment attracts jobseekers or temporary workers from outside the area, thereby increasing demand for low-cost accommodation, water, sanitation, electricity and waste services.

In the case of the proposed deviation, the project is not expected to generate substantial influx on its own, given the limited size and duration of the construction workforce. However, when considered together with other approved or active developments in the surrounding area, including solar PV projects identified in the screening report, the potential exists for cumulative localised pressure on accommodation and services, particularly if multiple projects rely on external labour or poorly managed worker accommodation arrangements.

The cumulative significance of this impact is assessed as **Low negative**. This reflects the fact that the deviation is unlikely to be a primary driver of service pressure, but may still add incrementally to a broader pattern of temporary demand if construction overlaps with other developments.

Mitigation should continue to focus on local recruitment, avoidance of uncontrolled “walk-in” labour, appropriate accommodation and transport arrangements for any non-local workers, and ongoing communication with relevant authorities where cumulative service pressures may reasonably be anticipated.

9.6.3 Community health, safety and security

Potential cumulative impacts on community health, safety and security may arise where multiple developments introduce temporary workers, construction traffic, access disturbance and other project-related pressures into the same broad social environment. These impacts may include an increased perceived

or actual risk of crime, greater pressure on local health and emergency services, increased traffic safety concerns, and an elevated risk of social tension where project benefits are not evenly distributed or are perceived to exclude local people.

For the proposed deviation, these impacts are expected to remain limited at project level, particularly because the workforce is relatively small and the deviation traverses a predominantly agricultural landscape rather than a densely settled urban area. Nevertheless, when considered in combination with other infrastructure or renewable energy projects in the wider area, the deviation may form part of a broader cumulative pattern of temporary disruption and perceived safety concern.

The cumulative significance of this impact is therefore assessed as **Low negative**. The main management response should be to ensure that the project does not contribute unnecessarily to broader cumulative pressures through poor contractor conduct, uncontrolled access, inadequate communication or insufficient traffic and safety management.

Mitigation measures should include implementation of a contractor code of conduct, continued use of a grievance mechanism, careful access management, communication with affected landowners and occupiers, and appropriate induction of workers on health, safety and community conduct requirements.

9.6.4 Overall cumulative impact conclusion

Overall, the proposed deviation is not expected to give rise to significant cumulative social impacts in its own right. Its cumulative effects are likely to be incremental and generally localised, with the main positive cumulative impact relating to short-term employment and procurement opportunities, and the main negative cumulative impacts relating to potential pressure on housing and services, and community health, safety and security, particularly if other developments are active in the same area at the same time. On balance, the cumulative social impacts of the proposed deviation are considered to be manageable, provided that the project's mitigation and enhancement measures are properly implemented and that local recruitment, access control, communication and contractor management remain strong throughout the construction phase.

9.7 Impact assessment rating

A preliminary list of potential social impacts that may result from the proposed project, along with significance ratings before and after mitigation is provided in this section (see Table 9).

Table 9: Potential social impacts (construction, operational and decommissioning phases

Activity		Impact / risk	Without / with mitigation	Duration	Scale/ extent	Magnitude/ severity	Nature	Probability	Impact significance	Typical mitigation measures/ enhancements	Management Outcome
Construction phase											
1	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Creation of employment, skills development, procurement and business opportunities.	**Without mitigation**	Short term	Local	Low	**Positive**	Probable	Low	i. Prioritise employment of local people from Dr Kenneth Kaunda District, particularly for semi and unskilled job categories as far as possible. ii. Employment of Black African people; women; and youth should be prioritised. iii. Implement training and on-the-job skills development programmes for temporary employees where feasible. iv. Employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria to the extent possible. v. Recruitment and employment practises must be in accordance with all labour legislation in South Africa. vii. Vacancies should be advertised in the local media when they become available.	Maximise employment of local people to the extent possible.
			With mitigation	Medium term	Local	Medium	**Positive**	Highly Probable	Moderate		
2	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Increased demand for low-cost housing and municipal services.	**Without mitigation**	Medium term	Local	Low	**Negative**	Improbable	Negligible	i. Prioritise employment of local people. ii. Provide suitable housing and living arrangements if temporary employees are brought in to undertake construction activities. Accommodation provided must not compromise safety of employees and surrounding communities. All applicable land-use agreements must be in place before construction commences. iii. Adequate arrangements for daily transport to and from the construction site must be in place before commencement of construction phase activities. iv. All non-local low and semi-skilled workers should be assisted with transport to return home when they are not required on site (i.e. weekends, etc.). v. All non-local construction workers should be assisted with transport back to their place of residence within one week of their temporary employment contracts coming to an end.	No additional demand for low-cost housing and municipal services as a result of the proposed project
			With mitigation	Short term	Local	Low	**Negative**	Improbable	Negligible		
3	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Strain on community health & safety services	**Without mitigation**	Long term	Local	High	**Negative**	Probable	Low	i. Prioritise employment of local people from the District and Local Municipalities. ii. The Applicant as well as any contractors that are appointed to undertake the construction phase activities should develop and agree a code of conduct which sets standards for acceptable behaviour and outlines behaviour and activities which could constitute grounds for dismissal. Any employee or contractor appointed by the Applicant to undertake construction phase activities that is found to be in breach of the code of conduct should be dismissed after following due process in accordance with prevailing labour legislation. Criminal activities should be reported to SAPS immediately for investigation and further action. iii. The Applicant and contractor should agree and implement an HIV/AIDS/TB awareness programme. iv. The Applicant should develop and implement an appropriate method of communication with the local community. A community liaison officer should be appointed during the construction phase to engage with local community members regarding any issues, complaints or grievances that they may have.	No additional strain on municipal and healthcare resources and facilities as a result of the proposed project
			With mitigation	Long term	Local	High	**Negative**	Improbable	Low		
4	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Influx of jobseekers.	**Without mitigation**	Short term	Regional	Low	**Negative**	Improbable	Negligible	i. Prioritise employment of local people from the various communities in Dr Kenneth Kaunda District Municipality. ii. Employment for 'walk-in' temporary / casual labourers at the proposed construction site should not be permitted.	N/A
			With mitigation	Short term	Local	Low	**Negative**	Improbable	Negligible		
5	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Disruption to agricultural operations, including livestock and game management.	**Without mitigation**	Short term	Site	High	**Negative**	Probable	Low	i. Construction activities must be planned in consultation with the affected land user. ii. Temporary work areas must be kept to the minimum required. iii. Temporary fencing or stock-control measures must be installed where necessary. iv. Gates must be kept closed. v. Personnel must not interfere with, chase or disturb livestock or game. vi. Disturbed farming areas must be reinstated as soon as practicable.	Minimise disruption to ongoing farming activities and avoid interference with livestock, grazing patterns and game management.
			With mitigation	Short term	Site	Medium	**Negative**	Improbable	Negligible		

	Activity	Impact / risk	Without / with mitigation	Duration	Scale/ extent	Magnitude/ severity	Nature	Probability	Impact significance	Typical mitigation measures/ enhancements	Management Outcome
6	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Access control, farm security and conflict with land users / occupiers.	**Without mitigation**	Short term	Site	High	**Negative**	Definite	High	i. Access routes and entry points must be agreed before construction commences. ii. Only approved gates, tracks and access points may be used. A site access register must be maintained where appropriate. iii. Contractors must be inducted on access rules. iv. Occupiers / tenants must be informed in advance where relevant. v. A clear grievance and complaint procedure must be implemented and maintained throughout construction.	Ensure that construction access is controlled and that land users and occupiers are not exposed to unnecessary disturbance, uncertainty or conflict.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		
7	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Damage to farm infrastructure and property.	**Without mitigation**	Short term	Site	High	**Negative**	Probable	Low	i. Sensitive infrastructure must be identified before construction. ii. Work areas and no-go areas must be clearly demarcated. iii. Vehicles and equipment must remain within approved work areas and access routes. iv. Any damage caused by construction must be repaired or replaced promptly.	Avoid damage to fencing, gates, pipelines, tracks and other fixed improvements, and to ensure that any damage is rectified promptly.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		
8	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Safety risks associated with construction vehicles and plant movement on farms and access roads.	**Without mitigation**	Short term	Site	High	**Negative**	Probable	Low	i. Vehicle speeds must be controlled in accordance with site rules and land user requirements. ii. Drivers must be inducted on route restrictions and farm safety protocols. iii. Construction traffic must use approved routes only. iv. Unnecessary vehicle trips must be avoided. v. Construction traffic must be supervised where activities interface with normal farm movement or sensitive areas.	Reduce safety risks associated with construction vehicles and plant movement on farms and access roads.
			With mitigation	Short term	Site	Medium	**Negative**	Improbable	Negligible		
9	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Dust and general construction nuisance.	**Without mitigation**	Short term	Site	Medium	**Negative**	Probable	Low	i. Dust suppression measures must be applied where necessary and appropriate, especially on frequently used access routes and disturbed areas. ii. Vehicle speeds must be limited. iii. Disturbance footprints must be minimised. iv. Complaints relating to dust or construction nuisance must be recorded and responded to promptly.	Minimise nuisance to land users, farming operations and nearby sensitive receptors arising from construction traffic and disturbed surfaces.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		
10	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Fire risk	**Without mitigation**	Short term	Site	Medium	**Negative**	Probable	Low	i. A fire prevention and response plan must be prepared and implemented. ii. Construction personnel must be inducted on fire prevention requirements. iii. Smoking, hot works and ignition sources must be strictly controlled. iv. Appropriate firefighting equipment must be available on site. v. Construction activities must be adjusted or suspended under high fire danger conditions where necessary. vi. Any fire-related damage caused by construction must be addressed in accordance with applicable legal and contractual obligations.	Prevent veldfires and ensure a rapid and effective response should a fire occur during construction.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		
11	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Non-compliance with approved servitude	**Without mitigation**	Short term	Site	High	**Negative**	Improbable	Low	i. The approved alignment, tower positions, work areas and access routes must be pegged or otherwise clearly identified prior to construction. ii. Contractors must be briefed on all footprint constraints. iii. No construction activity may take place outside the approved footprint unless separately authorised. iv. Compliance with footprint limits must be monitored throughout construction.	Ensure that construction remains within the approved and negotiated footprint and does not create avoidable land use conflict.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		

	Activity	Impact / risk	Without / with mitigation	Duration	Scale/ extent	Magnitude/ severity	Nature	Probability	Impact significance	Typical mitigation measures/ enhancements	Management Outcome
12	Site preparation; site establishment; construction of infrastructure; site rehabilitation.	Inadequate communication during construction	**Without mitigation**	Short term	Site	High	**Negative**	Improbable	Low	i. A designated contact person must be available for land-related queries and complaints. ii. Advance notice of construction activities must be provided where relevant. iii. Regular communication must be maintained with affected land users and occupiers during active construction. iv. Complaints, incidents and agreed actions must be recorded and tracked to closure.	Ensure that affected parties remain informed and that issues are identified and resolved early.
			With mitigation	Short term	Site	Low	**Negative**	Improbable	Negligible		
Operational phase											
13	Operation and maintenance of the transmission line. Routine inspection and maintenance. Vegetation control within servitude. Emergency repair access.	Creation of employment, skills development, procurement and business opportunities.	**Without mitigation**	Short term	Local	Low	**Positive**	Improbable	Negligible	i. Prioritise employment of local people from Dr Kenneth Kaunda District, particularly for semi and unskilled job categories as far as possible. ii. Employment of Black African people; women; and youth should be prioritised. iii. Implement training and on-the-job skills development programmes for temporary employees where feasible. iv. Employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria to the extent possible. v. Recruitment and employment practises must be in accordance with all labour legislation in South Africa. vii. Vacancies should be advertised in the local media when they become available.	Maximise employment of local people to the extent possible.
			With mitigation	Short term	Local	Low	**Positive**	Improbable	Negligible		
14	Operation and maintenance of the transmission line. Routine inspection and maintenance. Vegetation control within servitude. Emergency repair access.	Strengthening energy supply.	**Without mitigation**	Long term	Regional	High	**Positive**	Highly Probable	Moderate	The proposed development, once approved and operational, will support efforts to increase and stabilise electricity supply, thereby helping to reduce instances of electricity disruptions and associated negative socio-economic impacts.	Increase and stabilise electricity supply
			With mitigation	Long term	Regional	High	**Positive**	Highly Probable	Moderate		
Closure & decommissioning phase											
15	Closure and decommissioning activities.	Creation of local employment opportunities.	**Without mitigation**	Short term	Site	Low	**Positive**	Probable	Negligible	i) To the extent possible, the Applicant and any contractors appointed to undertake closure and decommissioning related activities should prioritise employment of local people from Dr Kenneth Kaunda District, particularly for semi and unskilled job categories. ii) Employment of Black African people; women; and youth should be prioritised. iii) Where feasible, efforts should be made to employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria. iv) Recruitment and employment practises must be aligned with prevailing labour legislation in South Africa. v) Vacancies should be advertised in the local media when they become available.	Maximise employment of local people to the extent possible
			With mitigation	Short term	Site	Low	**Positive**	Highly Probable	Low		

10 CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

This Social Impact Assessment considered the proposed 14 km deviation of the authorised Pluto-Mahikeng 400 kV powerline within JB Marks and Mahikeng Local Municipalities. The assessment confirms that the proposed deviation forms part of strategically important transmission infrastructure and is broadly compatible with the prevailing legal, policy and planning framework, provided that the site-specific social impacts associated with the deviation are appropriately managed.

From a social perspective, the deviation is located within a predominantly agricultural working landscape in which the principal sensitivities relate to directly affected landowners and occupiers, agricultural operations, livestock and game management, access arrangements, farm infrastructure, construction nuisance, fire risk, and the ongoing relationship between the project proponent and affected parties. The available landowner engagement and servitude negotiation information confirms that these issues are central to the practical and social feasibility of the deviation.

The assessment found that the most significant negative impacts are expected during the construction phase and will occur mainly at property level. These include disruption to farming activities, access control and security concerns, potential damage to farm infrastructure, traffic and dust nuisance, and veldfire risk. However, the assessment also found that these impacts are generally localised and can be reduced to acceptable levels through appropriate mitigation, contractor controls, communication protocols and landowner-specific management measures. Positive impacts associated with the construction phase are expected to be limited but include short-term employment and procurement opportunities, while the main long-term positive impact of the operational phase relates to the strengthening of electricity transmission and supply reliability. Table 10 provides a summary of potential socio-economic impacts and their significance, pre- and post-mitigation/enhancement.

On balance, the proposed deviation is considered to be socially acceptable, provided that the mitigation and management measures identified in this report are effectively implemented, and provided further that the project-specific recommendations set out below are incorporated into Section C of the Generic EMPr for Powerlines in order to address the particular land use and social sensitivities associated with the deviation area.

Table 10: Summary of potential socio-economic impacts and their significance

Potential impact	Significance (pre-mitigation/ enhancement)	Significance (post-mitigation / enhancement)
CONSTRUCTION PHASE		
Creation of employment, skills development, procurement and business opportunities.	Low (Positive)	Low (Positive)
Increased demand for low-cost housing and municipal services.	Low (Negative)	Low (Negative)
Strain on community health & safety services.	Low (Negative)	Low (Negative)
Influx of jobseekers.	Low (Negative)	Low (Negative)
Agricultural, access, infrastructure and construction disturbance impacts (including agricultural operations, access control, property damage, traffic and safety risks, dust, fire risk, servitude compliance and communication).	Low (Negative)	Low (Negative)

Potential impact	Significance (pre-mitigation/ enhancement)	Significance (post-mitigation / enhancement)
OPERATIONAL PHASE		
Limited employment, skills development, procurement and business opportunities.	Low (Positive)	Low (Positive)
Strengthening energy supply.	Low (Positive)	Low (Positive)
CLOSURE AND DECOMMISSIONING PHASE		
Creation of local employment opportunities.	Low (Positive)	Low (Positive)
CUMULATIVE IMPACTS		
Employment, skills and economic opportunities.	Low (Positive)	Low (Positive)
Influx, housing and demand for municipal services.	Low (Negative)	Low (Negative)
Community health, safety and security.	Low (Negative)	Low (Negative)

10.2 Recommendations

The Generic EMPr for overhead electricity transmission and distribution infrastructure provides a comprehensive set of pre-approved impact management outcomes and actions in Part B: Section 1, including measures relating to access roads, fencing and gates, dust suppression, fire prevention, socio-economic engagement, complaints handling, claims for damages and interaction with affected parties. The recommendations set out below are therefore not intended to duplicate those standard provisions. Rather, they identify the additional site-specific controls considered necessary for inclusion in **Part C** in order to address the particular agricultural, property-related and occupier-related social risks associated with the proposed deviation.

Accordingly, Table 11 identifies only those additional site-specific impact management outcomes and actions considered necessary in light of the particular social and land-use sensitivities associated with the deviation area. These measures should be read together with, and not as a substitute for, the applicable pre-approved provisions contained in Part B: Section 1 of the Generic EMPr.

Table 11: Generic EMPr Part C - Site-specific impact management outcomes and actions

Spatial reference / trigger	Impact management outcome	Additional site-specific impact management actions	Responsible person (implementation)	Method of implementation	Timeframe for implementation	Responsible person (monitoring)	Monitoring frequency	Evidence of compliance
All affected farm portions within the deviation area where construction access is required	Property-level access and movement are managed in a manner consistent with requirements agreed with landowner / occupier	A **property-specific access protocol** must be prepared for each affected property before any site works commence. The protocol must record approved access routes, approved gates, lock / key arrangements where relevant, no-go areas, property-specific movement restrictions, and any agreed conditions relating to stock, crops, game, fencing or sensitive infrastructure. No contractor access may occur until the protocol has been confirmed and communicated to site personnel.	Holder of EA; Contractor; Site Manager	Prepare a short property-specific access sheet and site map for each property and include it in the EMPr file and contractor induction pack	Before commencement on each property	ECO; Developer Site Supervisor	Before access to each property and during routine inspections	Signed property-specific access protocol; induction records; site maps; EMPr file
Nooitgedacht 69/0 and Nooitgedacht 69/3, and any other state-owned land with occupiers / tenants	Occupiers / tenants are informed in advance and not excluded from site-related communication	No access to affected state-owned land may occur until the relevant state representative has been contacted and lawful occupiers / tenants who may be affected have been informed of the proposed works, timing, access arrangements and grievance contact details. Where required, a sensitisation meeting or equivalent notification process must be undertaken prior to construction.	Holder of EA; Contractor; Land access / stakeholder liaison representative	Engage the relevant department representative and document communication with occupiers / tenants before construction access is taken	Before commencement on state-owned affected land	ECO; Developer Site Supervisor	Prior to construction access and during any follow-up engagement	Record of contact with department; attendance register / notices; stakeholder communication log
Properties used for livestock and / or game farming, including those where stock or game movement may be affected	Livestock and game disturbance, escape and related operational disruption are avoided as far as reasonably possible	A **farm-specific livestock / game management method statement** must be prepared where works may affect livestock or game. This must include temporary stock-control measures where required, gate discipline, restrictions on worker movement outside approved areas, arrangements for stock movement through or around active work areas, and procedures prohibiting the chasing, harassment or disturbance of livestock or game.	Contractor; Site Manager	Include livestock / game measures in property method statements and contractor induction; implement temporary controls where required	Before commencement on relevant properties and throughout active works	ECO; Landowner / occupier liaison through Site Manager	Daily during active works on relevant properties; confirm at site meetings	Approved method statement; induction records; daily site records; complaint / incident register
Goedgedacht 27 IQ/1, Klipgat 18 IQ/8, and any other properties where servitude position or pylon placement is subject to specific negotiated constraints	Construction remains within the negotiated and socially acceptable footprint	Before any clearing, excavation or foundation works commence, the approved centreline, tower positions, temporary work areas and access routes must be pegged and verified against negotiated servitude constraints. Any property-specific limitation relating to offset from boundaries, exclusion of pylons, or gate location must be reflected on the construction layout. No deviation from the agreed footprint may occur unless separately approved.	Surveyor; Contractor; Site Manager	Peg and verify all relevant construction footprints in the field and reflect these on layout drawings issued to the contractor	Before commencement of works on constrained properties	ECO; Developer Site Supervisor	Prior to construction and during routine compliance inspections	Pegging record; survey drawings; signed verification note; photographic record
Deviation area generally, with particular application where veldfire risk is high	Project-specific veldfire risk is proactively managed in the agricultural receiving environment	In addition to the general fire prevention measures in the Generic EMPr, a **deviation-specific veldfire readiness protocol** must be prepared for the construction phase. This must identify local emergency contacts, property-specific response arrangements where relevant, communication steps in the event of fire, and the conditions under which high-risk activities must be suspended during periods of elevated fire danger. Where required by site conditions, dedicated firefighting capability must be immediately available during active works in velded areas.	Contractor; Site Manager; Holder of EA	Prepare a deviation-specific veldfire readiness protocol and brief all site personnel before works commence	Before construction and throughout the fire-risk season / active works period	ECO; Developer Site Supervisor	Confirm before construction; inspect during active works and high-risk periods	Fire readiness protocol; induction records; emergency contact list; site inspection records
All affected properties before site entry	Sensitive farm infrastructure and pre-existing property condition are verified before works begin	A joint **pre-construction walkdown and condition verification** must be undertaken with the affected landowner / occupier representative before works commence on each property. The walkdown must identify fences, gates, tracks, pipelines, water points, culverts and other relevant infrastructure or sensitive features within or near the work area, and record their condition photographically.	Contractor; Site Manager; Landowner / occupier representative	Conduct a joint site walk and compile a brief condition record with photographs	Before commencement on each property	ECO	Prior to construction on each property	Signed walkdown record; dated photographs; infrastructure condition log
All affected properties after completion of works on each property	Disturbed areas are properly handed back and outstanding property-related issues	On completion of works on each property, a joint **property close-out inspection** must be undertaken with the affected landowner / occupier representative to confirm reinstatement of disturbed areas, the condition of gates, fencing, tracks and other infrastructure, and closure of any outstanding complaints or damage claims. Any	Contractor; Site Manager; Holder of EA representative	Undertake a joint handover inspection and document any final remedial actions required	On completion of works on each property	ECO; Developer Site Supervisor	Once per property at practical completion, with follow-up if required	Signed close-out record; photographic record; corrective action log; claims register

	are closed out promptly	outstanding corrective action must be recorded with agreed timeframes.						
Operational phase - all affected properties requiring routine or emergency maintenance access	Operational access is managed transparently and with minimum avoidable disruption to landowners / occupiers	A simple **operational access procedure** must be adopted for the deviation section. For planned maintenance, affected landowners / occupiers should receive reasonable advance notice of intended access. Maintenance teams must use agreed gates and routes. Where emergency access is required, landowners / occupiers must be informed as soon as reasonably practicable after access is taken.	Holder of EA; Operations / maintenance team	Include access procedure in operational maintenance planning and contractor / staff instructions	During operation and maintenance phase	Holder of EA representative; ECO where applicable to maintenance audits	Ongoing, as and when maintenance access occurs	Maintenance access log; communication records; complaints register

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ANNEXURE 1

SPECIALIST CV

Ursula Papé

Consultant

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Profile

Ursula Papé is a social performance and legal compliance consultant with over 16 years of experience in sectors such as power, mining, and oil & gas. As the Director of Solarys (Pty) Ltd, based in Randburg, South Africa, she specializes in social impact assessments, Social and Labour Plans (SLPs), international lender compliance audits, stakeholder engagement, and legal research focusing on environmental law. Her expertise also encompasses project coordination for environmental and social impact assessments, as well as conducting social and labour audits to ensure compliance with South African and international social governance standards. Ursula holds a Master of Laws (LLM) with distinction in Constitutional, Environmental and Administrative Law from the University of Pretoria. She also earned a Bachelor of Laws (LLB) from the University of South Africa. Her professional affiliations include memberships in the Environmental Law Association of South Africa, the International Association for Impact Assessment (South Africa), and the International Association for Public Participation. Throughout her career, Ursula has managed numerous projects, including social impact assessments for proposed mining operations, development of SLPs for mining and offshore production rights applications, and public participation processes for mining and renewable energy developments. Her commitment to upholding legal and ethical standards in environmental and social governance is evident in her comprehensive approach to consulting.

Key Skills

Social impact assessment
Social and labour planning
Stakeholder engagement
Project management
Labour and human rights compliance
Due diligence audits
Report writing
Legal research
Environmental law

Memberships

Environmental Law Association, South Africa

International Association for Impact Assessment, South Africa (IAIAsa)

Experience

August 2020 - present

Consultant / Director • Solarys (Pty) Ltd • Randburg, South Africa

- Undertake audits to determine compliance with South African Labour Law; requirements related to SLPs (Human Resource Development and Community Economic Development aspects); and employee housing and living conditions.
- Undertake social impact assessments as part of environmental impact assessment processes.
- Plan, facilitate and undertake public participation processes required in terms of environmental legislation.
- Manage regulatory processes associated with preparation of SLPs including engagement with key stakeholders and preparation of required reports.
- Prepare housing and living conditions plans.
- Identify legal process requirements associated with environmental permitting/licence applications in terms of the South African regulatory framework and international standards.
- Manage all day-to-day business functions including business development; project management; quality control; client deliverables; and financial administration.

International Association for Public Participation (IAP2)

February 2008 – July 2020
Consultant/project coordinator • Golder Associates Africa (Pty) Ltd • Midrand, South Africa

- Coordinate and undertake environmental and human resource due diligence processes as part of company mergers / acquisitions.
- Coordination; financial administration; quality control and report writing as part of environmental impact assessments.
- Assessing client compliance with environmental and labour legislation as part of regulatory audit requirements.
- Plan, undertake and document public participation processes required in terms of environmental legislation.
- Research legal issues for senior environmental assessment practitioners and prepare technical memoranda outlining relevant aspects; risks; and processes.

Education

September 2021
Master of Laws (LLM) with distinction • Constitutional and Administrative Law • University of Pretoria

Academic Honorary Colours, University of Pretoria, Student Representative Council

March 2018
Bachelor of Laws (LLB) • University of South Africa

Training completed

Protection of Personal Information Act Workshop
Ark Training, 2017

Social and Labour Planning
Prospen Africa, July 2017

Contract Management
Golder Associates, February 2016

Project Risk Management
Golder Associates, August 2015

Microsoft Projects
Executrain, March 2017

Project experience

Social impact assessments and SLPs

EVA Solutions, South Africa, 2024-2025	Prepare a SLP for the proposed Main Street 1549 (Pty) Ltd Block 11B/12B offshore production right application, Eastern and Western Cape Province.
Batlhako Mining Limited, North West Province, 2025 (ongoing)	Prepare a SLP for the Ruighoek Chrome Mine, Sun City, North West Province.
Kimopax (Pty) Ltd, South Africa, 2025	Update the social impact assessment for the proposed construction of the Gamma-Perseus second 765 kV transmission power line and associated substation upgrades for the National Transmission Company of South Africa, covering the Tokologo, Letsemeng, Renosterberg, Emthanjeni, Ubuntu and Beaufort West Local Municipalities in South Africa.
Zitholele Consulting (Pty) Ltd, Midrand, 2024	Facilitate discussions with members of the affected households around the proposed Thuso Colliery, Ogies, Mpumalanga Province. Communicate the details of the proposed blasting activities and obtain agreement from each household on the necessary steps to ensure the safety of all residents.
ArcelorMittal, Thabazimbi Iron Ore Mine, 2024	Undertake review of current (2019-2023) SLP and Annual Reports to assess the level of compliance with the SLP regulatory requirements. Prepare report highlighting issues that will impact on the new SLP.
Matai Mining (Pty) Ltd, North West Province, 2024	Effect updates to an existing SLP for the proposed Matai opencast Iron Ore, Vanadium and Titanium Mine located near Rustenburg, North West Province.
Ukwazi Mining Services (Pty) Ltd, South Africa, 2023 (ongoing)	Undertake a social baseline and impact assessment for the proposed Kameelhoek Iron Ore and Manganese Mine, Postmasburg, Northern Cape Province.
Ukwazi Mining Services (Pty) Ltd, South Africa, 2023 (ongoing)	Prepare a second generation SLP for the proposed Kameelhoek Iron Ore and Manganese Mine, Postmasburg, Northern Cape Province.
Ukwazi Mining Services (Pty) Ltd, South Africa, 2023 (ongoing)	Undertake a social baseline and impact assessment for a proposed solar development by at Glencore Eastern Mines, Fetakgomo Tubatse Local Municipality, Limpopo Province.
Vizirama 148 (Pty) Ltd (China Minmetals), South Africa, 2025 (ongoing)	Deliver general stakeholder engagement and related support services to the Client, including the facilitation of engagements with relevant Provincial and Local Government authorities, contractors, and independent consultants in relation to permitting requirements for the proposed Townlands Underground Chrome and PGM Mine, located within the Rustenburg Local Municipality, North West Province.
Zitholele Consulting (Pty) Ltd, South Africa, 2024	Undertake a social impact assessment for the proposed construction of MV powerlines at 42nd Hill, Intabazwe, Harrismith, in the Free State Province, South Africa, by Eskom Holdings SOC Ltd.
Zitholele Consulting (Pty) Ltd, South Africa, 2024	Undertake an update of a social impact assessment for the proposed development of the Borutho-Nzhelele ±250km Powerline, Limpopo Province, South Africa, by Eskom Holdings SOC Ltd.

Project experience

Social impact assessments and SLPs

Vizirama 148 (Pty) Ltd (China Minmetals), South Africa, 2023 (ongoing)	Prepare a second generation SLP for the proposed Townlands Underground Chrome Mine, Rustenburg, North West Province.
EnviroSaint (Pty) Ltd, South Africa, 2023	Undertake a social baseline and impact assessment for proposed upgrades to Transnet Freight Rail infrastructure near Sishen, Northern Cape.
EVA Solutions, South Africa, 2023 (ongoing)	Prepare social baseline and mine community development sections of SLP Beeshoek Mine, Postmasburg, Northern Cape Province.
Zitholele Consulting (Pty) Ltd, South Africa, 2022	Undertaking a social baseline and impact assessment for the proposed Eskom Kiwano Battery Energy Storage System and Solar Photovoltaic Project, Upington, Northern Cape
SATIVA Travel and Environmental Consultants, South Africa, 2021-2022	Undertake a social baseline and impact assessment for the proposed Greenleaf Energies 3000MW gas-to-power development, Mossel Bay, Western Cape Province.
EVA Solutions, South Africa, 2021 - 2023	Prepare a SLP for the proposed TotalEnergies EP South Africa B.V. Offshore Block 11B/12B offshore production right application, Eastern and Western Cape Province.
EVA Solutions, South Africa, 2021	Undertake a five-year SLP review process for Siyanda Bakgatla Platinum Mine, Moses Kotane Local Municipality, North West Province. Coordinate public participation processes related to SLP review process as well as mandatory publication of an approved SLP.
Prospen Africa, South Africa, 2021	Prepare Housing and Living Conditions Plans for Kalkpoort Soutwerke and Saamwerk Sout for their operations located near Upington, Northern Cape Province.
Vizirama 148 (Pty) Ltd (China Minmetals), South Africa, 2019	Update SLP baseline socio-economic data. Engage with Local and Provincial Government officials to secure sign-off on Local Economic Development (LED) projects. Advise and assist client with early implementation of local economic development projects. Prepare annual report for submission to Department of Mineral Resources and Energy (DMRE).
Era Stene (Pty) Ltd, Delmas and Olifantsfontein Mines South Africa, 2018-2019	Update SLP for Era Stene Delmas and Olifantsfontein mines, compile annual compliance reports for both mines. Assist and support client during DMRE audits.
Anglo American Coal, Goedehoop Colliery South Africa, 2017	Undertake a closure focused desktop compliance review of the mine's SLP.
Mafube Nooitgedacht and Wildfontein Collieries South Africa, 2017	Undertake a desktop compliance review of the mine's SLP.

Project experience

Social impact assessments and SLPs

Smarty (South Africa) Minerals Investment (Pty) Ltd, 2017	Undertake background research and compile social baseline report in support of a SLP for a proposed copper mine near Musina, Limpopo Province. Undertake tasks related to a public participation process.
South Africa, 2016 Exxaro Resources Limited South Africa, 2016	Undertake background research and compile social baseline report in support of a Social Impact Assessment and SLP which forms part of the rehabilitation and closure plan for Arnot Coal Mine near Middleburg, Mpumalanga.

Project experience

Public participation and project coordination

EnviroSaint (Pty) Ltd, South Africa, 2024	Undertake and manage the public participation process for the proposed establishment of a tyre pyrolysis plant by TenX Energy Africa (Pty) Ltd in Alrode South, within the City of Ekurhuleni Metropolitan Municipality, Gauteng Province. The purpose of the plant is to convert used tyres and other rubber materials into tyre-derived fuel, carbon black, pyrolysis gas, and recovered steel.
EcoPartners (Pty) Ltd, South Africa, 2023/2024	Undertake and manage a public participation process related to an Integrated Application for a Water Use Licence, A Waste Management Licence and an Environmental Authorisation Associated with the proposed Section 102 Amendment of an existing Mining Right held by Volspruit Mining Company (Pty) Ltd, Mogalakwena Local Municipality, Limpopo Province.
EcoPartners (Pty) Ltd, South Africa, 2023	Undertake and manage a public participation process related to a water use licence application by Sibanye-Stillwater Eastern Platinum Mine Limited for the expansion of a stormwater dam at its Eastern Platinum Concentrator, Madibeng Local Municipality, North West Province.
Zitholele Consulting (Pty) Ltd, South Africa, 2023 (ongoing)	Undertake a public participation process related to two mining right applications by Glubay Coal (Pty) Ltd, Emfuleni and Midvaal Local Municipalities, Gauteng Province.
SATIVA Travel and Environmental Consultants, South Africa, 2023	Undertake and manage the public participation process for applications submitted by Volo G5 (Pty) Ltd, Greenleaf G5 Holdings (Pty) Ltd, Greenleaf Kagiso Holdings (Pty) Ltd, and Volo Kagiso (Pty) Ltd for the development of a cluster of four contiguous Solar PV Parks near Brakpan, within the City of Ekurhuleni Metropolitan Municipality, Gauteng Province.
EnviroSaint (Pty) Ltd, South Africa, 2023	Undertake and manage a public participation process related to proposed upgrades to Transnet Freight Rail infrastructure near Sishen, Northern Cape Province.
EnviroSaint (Pty) Ltd, South Africa, 2023	Undertake and manage a public participation process related to establishment of a proposed solar development by Kouga Local Municipality, Eastern Cape Province.

Project experience

Public participation and project coordination

SATIVA Travel and Environmental Consultants, South Africa, 2021-2022	Undertake a public participation process related to the proposed Greenleaf Energies 3000MW gas-to-power development, Mossel Bay, Western Cape Province.
EnviroSaint, South Africa, 2021	Undertake and manage a public participation process related to an application for environmental authorisations for a proposed Solar Park and associated infrastructure at the Glen Douglas Mine, Midvaal Local Municipality, Gauteng.
EnviroSaint, South Africa, 2021	Undertake and manage a public participation process related to a waste management licence application by ClinX Waste Management CC for infrastructure to treat Health Care Risk Waste (HCRW) at its facility situated in Germiston, Gauteng.
SATIVA Travel and Environmental Consultants, South Africa, 2021	Undertake and manage public participation processes related to three applications for environmental authorisations for the proposed decommissioning of kilns at PPC facilities in Germiston, Mahikeng and Pretoria.
SATIVA Travel and Environmental Consultants, South Africa, 2020	Undertake and manage a public participation process related to an application for environmental authorisations for the proposed decommissioning of a sand drying facility located at Ezee Tile Adhesives (Pty) Ltd premises, Blackheath, City of Cape Town.
SATIVA Travel and Environmental Consultants, South Africa, 2020	Undertake and manage a public participation process related to the amendment of environmental authorisations for five approve solar developments near De Aar, Northern Cape Province.
Seriti Coal (Pty) Ltd South Africa, 2019	Review specialist baseline and impact assessment studies and consolidate findings into a draft environmental impact assessment and environmental management programme report for the Seriti Coal Metsimaholo underground coal mine. Coordination of public participation process in support of a mining right application and application for environmental authorisation for related listed activities.
Tullow Oil Plc Kenya, 2019	Coordinate stakeholder engagement activities and social baseline assessment surveys for a proposed 800km crude oil pipeline between Lokichar and Lamu, Kenya. Project scope included requirements to follow IFC Performance Standards (2012) and World Bank Group Environmental Health & Safety (EHS) Guidelines (2007).
De Beers Consolidated Mines (Pty) Ltd, South Africa, 2018	Compile draft environmental authorisation and environmental management programme report amendment application and notify registered interested and affected parties accordingly.
China National Offshore Oil Corporation (CNOOC), Uganda, 2018	Coordination of ESIA for the proposed development of oilfields in three government-designated oil license areas on the eastern border of Lake Albert in western Uganda. Project scope included requirements to follow IFC Performance Standards (2012) and World Bank Group Environmental Health & Safety (EHS) Guidelines (2007).

Project experience

Public participation and project coordination

Sasol Technology, Vilanculos Mozambique, 2019	Coordination of scoping/baseline studies for a proposed gas to power project near Vilanculos, Mozambique. Project scope included requirements to follow IFC Performance Standards (2012) and World Bank Group Environmental Health & Safety (EHS) Guidelines (2007).
South32 Hillside South Africa, 2018	Coordinate public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
Eskom Holdings SOC Limited, Medupi and Matimba Power Stations, South Africa, 2018	Management of a public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
Exxaro Grootegeluk Coal Mine South Africa, 2018	Management of a public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
African Carbon Energy (Pty) Ltd, Theunissen South Africa, 2017	Management of a public participation process as part of an ESIA for a proposed 50-megawatt net electrical power plant and underground coal-gasification project.
Blyvoor Gold Capital (Pty) Ltd, Carletonville, South Africa, 2016	Undertake background research and compile a social baseline report in support of a SLP for Blyvoor Gold, Blyvooruitzicht Mine near Carletonville.

Project experience

Audits, permitting and legal research

Zitholele Consulting (Pty) Ltd, Midrand, 2024 / 2025	Conduct an external Social Management Compliance Audit for Eskom Holdings SOC Ltd at the Kusile Power Station in Mpumalanga Province, South Africa, on behalf of international lenders, including the International Finance Corporation (IFC) and the World Bank Group.
SATIVA Travel and Environmental Consultants, South Africa, 2023	Prepare a draft Basic Assessment and Environmental Management Programme Report for proposed solar developments, City of Ekurhuleni, Gauteng Province.
EnviroSaint (Pty) Ltd, Pretoria, 2022	Prepare a draft outline of environmental permitting requirements for construction of pedestrian bridges and a fence to enhance safety measures at the Glencore Boshoek Smelter, Rustenburg Local Municipality, North West Province.
EnviroSaint (Pty) Ltd, Pretoria, 2022	Prepare a draft outline of environmental permitting requirements for proposed infrastructure upgrades and refurbishments at the Nseleni Wastewater Treatment Works and sewer reticulation system, City of uMhlathuze Local Municipality, KwaZulu-Natal Province.
EnviroSaint (Pty) Ltd, Pretoria, 2022	Prepare a draft outline of environmental permitting requirements associated with the establishment of infrastructure to de-sludge and upgrade sludge

Project experience

Audits, permitting and legal research

	lagoons at Potchefstroom Wastewater Treatment Plant, JB Marks Local Municipality, North West Province.
Dew Crisp (Pty) Ltd, Bapsfontein, South Africa, 2022	Survey of on-site employee accommodation to determine the level of compliance with applicable local legislation; regulations; standards; and guidelines.
WSP Golder (Pty) Ltd, Midrand, South Africa, 2022	Provide an outline of the applicable legislative framework for mine closure as it relates to social aspects at Palabora Copper (Pty) Ltd, Palabora Mine, Limpopo Province.
SATIVA Travel and Environmental Consultants, South Africa, 2021-2022	Prepare a draft Basic Assessment and Environmental Management Programme Report for the proposed PPC Cement (Pty) Ltd, Waste Tyre Storage Facility, Mahikeng, North West Province.
EnviroSaint (Pty) Ltd, Pretoria, 2022	Prepare a draft Basic Assessment and Environmental Management Programme Report for the proposed 9Five Integrated Nutrient System organic composting facility near Brits, North West Province.
Standard Executors and Trustees (Pty) Ltd South Africa 2020 and 2022	Assess various legal aspects related to requests to transfer funds from a mine rehabilitation trust to insurance guarantee instruments.
Confidential Waste Management Company, South Africa, 2020	Project coordination of environmental health and safety due diligence audits of waste disposal sites across South Africa and other African states.
Broll Property Group South Africa, 2020	Detail legal aspects applicable to the use and presence of hazardous building materials (asbestos, lead based paint, PCBs and mercury) with a view to outlining owner and tenant’s responsibilities.
Water Research Commission South Africa, 2019	As part of the process of developing an enabling operating environment for ash backfilling into disused mines, compile an integrated regulatory process summary focusing on waste and other related environmental legislated instruments.
Chemipharm Pharmaceutical Industries, Giza, Egypt, 2019	Undertake a Pharmaceutical Supply Chain Initiative (PSCI) audit at Chemipharm's Cephalosporin Factory.
Epiroc South Africa (Pty) Ltd, Kitwe, Kitwe, Zambia 2015	As part of a Phase I Environmental Site Assessment of a warehousing and assembly facility, assess compliance with national legislation and municipal by-laws.
Averda, South Africa, 2015	Undertake due diligence audit with a focus on labour aspects. Compile human resources due diligence audit report.

ANNEXURE 2

Consideration of need and desirability as required in the NEMA Need and Desirability Guideline, 2017.

Table 12: Consideration of need and desirability

Question		Reference to relevant section in SIA
2.1	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:	Sections 5, 7, 8 and 9.2
2.1.1	The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,	Sections 7 and 9.2
2.1.2	Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),	Sections 5, 7, 8.7 and 9.2
2.1.3	Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and	Sections 4.3, 5 and 8.7
2.1.4	Municipal Economic Development Strategy (LED Strategy).	Sections 7.8 – 7.10 and 9.2
2.2	Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?	Sections 9.4 – 9.6 and 10.1
2.2.1	Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs)?	Sections 7.5 – 7.10, 9.2, 9.4.1 and 9.5.2
2.3	How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	Sections 5, 8, 8.9, 9.4 – 9.6 and 10.1
2.4	Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	Sections 9.4 – 9.6 and 10.1
2.5	In terms of location, describe how the placement of the proposed development will:	Sections 4.3 – 4.8, 5, 7, 8.7, 9.2 and 9.3
2.5.1	result in the creation of residential and employment opportunities in close proximity to or integrated with each other,	Sections 4.7, 9.4.1 and 9.5.1
2.5.2	reduce the need for transport of people and goods,	N/A
2.5.3	result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),	N/A
2.5.4	compliment other uses in the area,	Sections 5, 7, 8.7, 9.2 and 9.3
2.5.5		Sections 7 and 9.2
2.5.6	be in line with the planning for the area,	N/A
2.5.8	for urban related development, make use of underutilised land available with the urban edge,	Sections 7.5 – 7.10 and 9.2
2.5.9	opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),	N/A
2.5.10	discourage 'urban sprawl' and contribute to compaction/densification,	N/A
2.5.11	contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,	Sections 7.1 – 7.4, 9.2, 9.3 and 10.2
2.5.12	encourage environmentally sustainable land development practices and processes,	Sections 4.1 – 4.3, 7.5 – 7.10, 9.2 and 9.3
2.5.13	take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),	Sections 7.5 – 7.10, 9.2 and 9.5.2

Question		Reference to relevant section in SIA
2.5.14	the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),	Sections 5, 8.7, 9.3 and 10.1
2.5.15	impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and	N/A
2.6	How were a risk-averse and cautious approach applied in terms of socio-economic impacts?:	Sections 6.7, 9.4 – 9.6 and 10.1
2.6.1	What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	Section 6.7
2.6.2	What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?	Sections 6.7, 9.4.3 – 9.4.6 and 9.6
2.6.3	Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	Sections 6.7, 9.4 – 9.6 and 10.1
2.7	How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:	Sections 9.4 – 9.6 and 10.1
2.7.1	Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	Sections 9.4.3 – 9.4.6, 9.6, 10.1 and 10.2
2.7.2	Positive impacts. What measures were taken to enhance positive impacts?	Sections 9.4.1, 9.5.1, 9.5.2, 9.6.1 and 10.1
2.8	Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	Sections 8.7, 9.4.5, 9.4.6, 10.1 and 10.2
2.9	What measures were taken to pursue the selection of the 'best practicable environmental option' in terms of socio-economic considerations?	Sections 9.2, 9.3 and 10.1
2.10	What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the 'best practicable environmental option' to be selected, or is there a need for other alternatives to be considered?	Sections 6.2 and 8.9 Sections 9.3 – 9.6 and 10.1
2.11	What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	Sections 7.1, 7.2, 7.5 – 7.10, 9.4.1 and 9.5.2
2.12	What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	Sections 4.6, 9.4.3 – 9.4.6, 10.1 and 10.2
2.13	What measures were taken to:	Sections 6.2 and 8.9
2.13.1	Ensure the participation of all interested and affected parties,	Section 8.9
2.13.2	Provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,	Section 8.9
2.13.3	ensure participation by vulnerable and disadvantaged persons,	Section 8.9
2.13.4	promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,	Section 8.9
2.13.5	ensure openness and transparency, and access to information in terms of the process,	Section 8.9
2.13.6	ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and	Section 8.9

Question		Reference to relevant section in SIA
2.13.7	ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?	Section 8.9
2.14	Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	Sections 8.9, 9.4.1 and 10.1
2.15	What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	Section 4.7
2.16	Describe how the development will impact on job creation in terms of, amongst other aspects:	Sections 4.7, 9.4.1, 9.5.1 and 9.6.1
2.16.1	The number of temporary versus permanent jobs that will be created,	Section 4.7
2.16.2	Whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),	Section 4.7
2.16.3	The distance from where labourers will have to travel,	Section 4.7
2.16.4	The location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and	Sections 4.7, 9.4.1 and 10.1
2.16.5	The opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	Sections 4.7, 9.4.5 and 10.1
2.17	What measures were taken to ensure:	N/A
2.17.1	That there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and	N/A
2.17.2	That actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	N/A
2.18	What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	Sections 7.1 – 7.4 and 9.2
2.19	Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	Sections 9.4 – 9.6, 10.1 and 10.2
2.2	What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	Sections 7.2, 9.4.5, 9.4.6 and 10.2
2.21	Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	Sections 9.2, 9.3 and 10.1
2.22	Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	Section 9.6