



**PROPOSED CONSTRUCTION OF FIVE (5) 88KV  
POWERLINES CONNECTING KOOKFONTEIN  
AND JAGUAR SUBSTATIONS, MIDVAAL AND EMFULENI  
MUNICIPALITIES, GAUTENG PROVINCE**

**DRAFT BASIC ASSESSMENT REPORT**

**(Revision 1)**

**July 2013**

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# **PROPOSED CONSTRUCTION OF FIVE (5) 88KV POWERLINES CONNECTING KOOKFONTEIN AND JAGUAR SUBSTATIONS, MIDVAAL AND EMFULENI MUNICIPALITIES, GAUTENG PROVINCE**

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Ms. Nkhensani Khandlhela heads the project team and acts as the Project Manager for all phases of the project. Nkhensani holds a M.Sc. (Geographical Sciences). She is an Environmental Scientist with 6 years of experience. Nkhensani specialises in Integrated Environmental Management (IEM), Environmental Impact Assessments (EIAs), rural development, land use issues and socio-economic surveys. Nkhensani has been a project scientist for various EIA's in KwaZulu Natal, Eastern Cape and Gauteng provinces of South Africa. Nkhensani is currently a Project Manager and Environmental Scientist at Envirolution Consulting.

**This report has been reissued for public review as of 05 July 2013 to 05 August 2013**



# BASIC ASSESSMENT REPORT



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The report must be compiled by an independent environmental assessment practitioner.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
11. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

**SECTION A: ACTIVITY INFORMATION**

**Basic Assessment for the proposed construction of five (5) 88kV powerlines connecting Kookfontein and Jaguar substations, located in the Midvaal area and Emfuleni municipalities, Gauteng province (hereafter, the project).**

Has a specialist been consulted to assist with the completion of this section? 

YES	
-----	--

If YES, please complete the form entitled "Details of specialist and declaration of interest" for appointment of a specialist for each specialist thus appointed:  
Any specialist reports must be contained in Appendix D.

**1. ACTIVITY DESCRIPTION**

Describe the activity, which is being applied for, in detail<sup>1</sup>:

**1.1 Project Description**

*Envirolution Consulting has been appointed by Eskom Distribution (Pty) Ltd to undertake a Basic Assessment for the proposed construction of five (5) 88kV powerlines connecting Kookfontein and Jaguar substations, located in the Midvaal area and Emfuleni municipalities, Gauteng province (hereafter, the project). The project aims to strengthen the network capacity as well as to improve the quality of electricity supply in the area. Currently, one alignment has been proposed with two deviations along the route (referred to as "Proposed route" and "Alternative 1 and 2" respectively and four proposed powerlines at the beginning of the alignment) - It must be noted that all the Proposed 4 lines (± 2500m in length) out of Kookfontein substation are required and no alternatives have been considered as the lines are located within the existing servitude. Please refer to **Figure 1**.*

*The "straight line" distance between Kookfontein and Jaguar Substations is 13 km but the proposed servitude lengths are longer. A servitude width of 22 m is required, however for the purposes of this project assessment, servitude of about 50m from the centre line was considered.*

*This draft Basic Assessment report has been re issued for public review due to a slight change in the powerline alignment. The section of the powerline between Jakobskop cemetery and Roshnee was realigned in order to avoid direct impacts on some of the graves within the Jakobskop cemetery. All specialists (flora, fauna, wetland and heritage) have following this realignment updated their reports to include the realigned section of the powerline. Additional changes to the project also include the installation of double circuit powerline between R82 and the cemetery sections. The double circuit line will start just before R82 and will end on the southern end of the Jacobskop cemetery. One line will split to join into Residentia substation (outside the scope of this project) and the other line (the proposed project) will bend northwards as per the proposed realignment.*

**1.2. Deviations and Route Description**

**1.2.1 Proposed Routes – Yellow, Red and Purple coloured lines**

*As has already been discussed, five (5) 88KV powerlines are proposed to link the Kookfontein and Jaguar Substations. Please refer to Figure 1 for the locations of the proposed powerlines in the study area. It must be noted that the combination of two routes (referred to as proposed route (yellow) and*

<sup>1</sup> Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

proposed route 4 lines (purple) are proposed and preferred for the purposes of this project. These routes are briefly described as follows:

(a) Proposed Route – Yellow and Red

This 21km 88kV route is proposed to align between the R551 road and the Lakeside Estate residential areas. From Iron side substation, the route veers north-west through vacant land. In proximity to the Jaguar substation, the route is in close proximity to residential areas, while aligning with a railway line. This route passes through the Rietspruit. This route is proposed to align through mainly grassland areas, as well as the Fouriespruit. The land use along the route comprise of mainly agricultural holdings, while the Samancor plant is situated in close proximity to the first portion of the route.

Eskom has in some sections of this route secured servitude whereas in some of the sections of this route Eskom is yet to acquire servitude. For example, between Kookfontein and Meyerton (second bend), Eskom has a vacant servitude, whereas from Meyerton to Ironside, a new servitude is proposed and a vacant servitude (existing powerline that has since been decommissioned) exists between Ironside and Jaguar substations.

(b) Proposed Route (4 lines) - Purple

These four short routes of about 2.5 km connect Alternative 1 and Alternative 2 to Kookfontein substation. These routes run more or-less parallel to existing powerlines and servitudes as well as the R59 road. Please note all the Proposed 4 lines out of Kookfontein substation are required and no alternatives have been considered as the lines are located on the existing servitude.

**1.2.2 Alternative 1 Route Alignment - Green**

The 7.6 km green route is proposed to align with current powerlines and servitudes, through areas degraded and fragmented by mining activities, cultivation, a cemetery, residential areas and agricultural holdings. Although grasslands and wetlands were noted, the route will largely align with an existing powerline and servitudes. During the Basic Assessment, it was noted that the Alternative 1 route alignment traverse a graveyard directly west of the R82 road and west of the residential area of Roshnee and Dadaville. As a result the route alignment was re-aligned (moved 20 metres away from the graves) to the east of the R82 and only crosses over the R82 road after the graveyard (**Appendix A**).

A private landowner and Gautrans objected to the realignment due to future land uses. Eskom has now realigned the powerline to transect the western portion of the Jakobskop cemetery which is currently vacant (no graves). The heritage specialist following this alignment revisited the site and reviewed the alignment and recommended that the proposed development can continue with the application of mitigation measures especially in areas located in close proximity to the cultural and heritage features (graves).

**1.2.3 Alternative 2 Route Alignment - Blue**

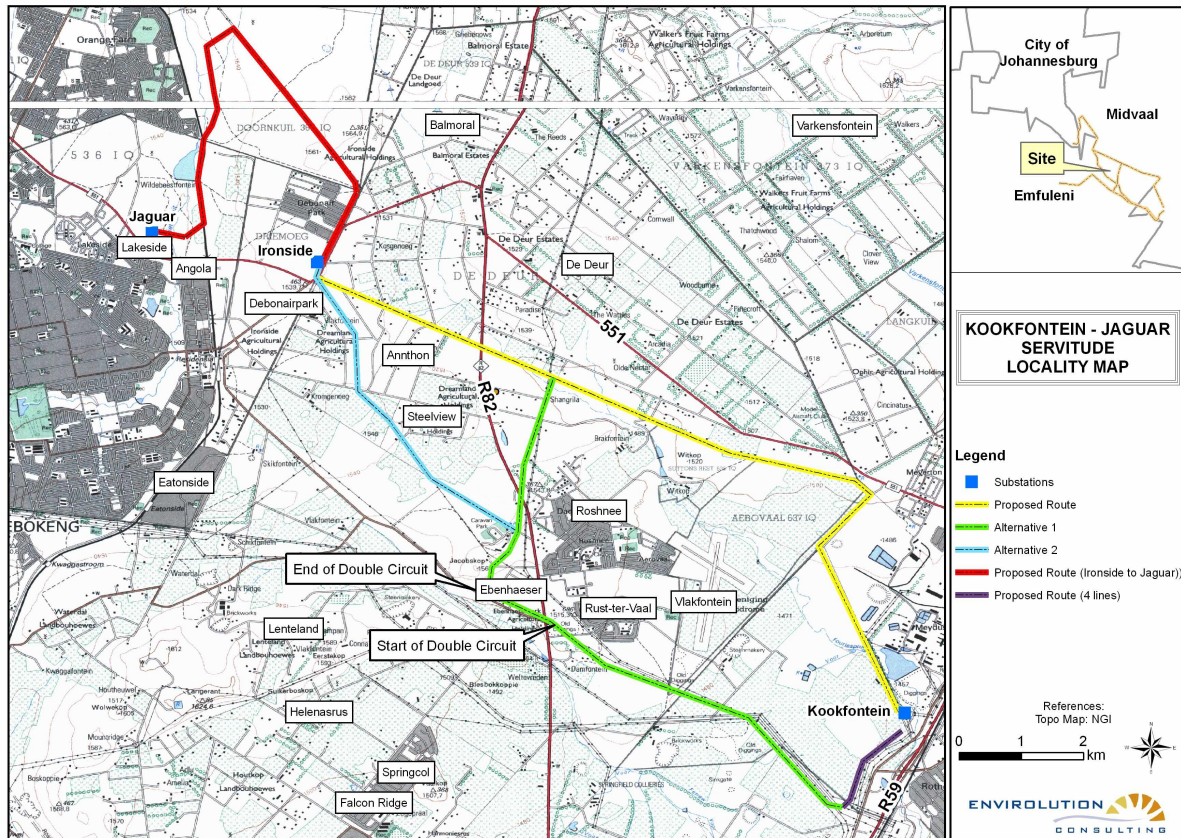
This 5.5 km alignment follows the same route as Alternative 1 for the first half of its extent. From the caravan park, Alternative 2 veers away from Alternative 1 in a north-westerly direction towards



*Ironside, while passing through historically cultivated areas and agricultural holdings.*

### 1.3 Environmental Setting

*The Kookfontein substation is located South-West of Meyerton at approximately 26°35'15.86"S and 27°59'17.19"E. The future Ironside substation is located directly East of Evaton Estates at approximately 26°31'33.43"S and 27°54'8.73"E, and the future Jaguar substation is located in the vicinity of Lakeside at approximately 26°31'8.38"S and 27°52'45.39"E. The study site falls within two municipalities; Midvaal and Emfuleni (**Figure 1**). Please refer to Figure 1 - site location, and also refer to **Appendix A** and Site photographs contained in **Appendix B** for an overall view of the site.*



*The majority of the proposed powerline traverses agricultural holdings which are comprised of a residential dwellings and open areas of grassland with mixed trees being present (often stands of exotic trees). Most if not all of the open grassland is exposed to livestock grazing and is therefore moderately disturbed. Some agricultural holdings also use part of the land for subsistence crop agriculture, typically maize. Towards the Kookfontein substation, the extent of maize cultivation increases to larger areas being used for agriculture.*

### 1.3 Required Services

#### 1.4.1 Access Routes

*For construction purposes the proposed sites can be reached via the existing access roads. Existing small gravel roads (that may be upgraded as part of this development) provides access to the site. The use of roads on private property will be subject to the Environmental Management Programme (EMPR) and will be determined based on discussions with landowners should it be necessary.*

*Stormwater will be managed according to the Eskom Guidelines for Erosion Control and Vegetation*

Management as well as the Environmental Management Programme (EMPr) that has been compiled for the construction and operational phase.

#### **1.4.2 Construction Site Camps**

Normally the powerline contractor would set up at least one site camp but this does not necessarily need to be near the substation site. The contractor may however prefer to use a fully serviced site in another location. The exact location of the construction camps and material stockyards are yet to be determined.

#### **1.4.3 Sewage**

A negligible sewage flow is anticipated for the duration of the construction period. Onsite treatment will be undertaken through the use of chemical toilets. The toilets will be serviced periodically by the supplier and effluent will be collected for disposal into the registered Waste Water Treatment Works by the appointed service provider.

#### **1.4.4 Solid Waste Disposal**

All solid waste will be collected at a central location at each construction site and will be stored temporarily until removal to a registered permitted landfill site.

#### **1.4.5 Electricity**

Diesel generators will be utilised for the provision of electricity where electricity connection is not readily available.

#### **1.4.5 Construction Process**

Generally, the construction of the powerline is expected to consist of the following sequential phases:

- Step 1: Feasibility and identification of line alternatives.
- Step 2: Basic Assessment input and environmental permitting.
- Step 3: Negotiation of final route with affected landowners.
- Step 4: Survey of the proposed route.
- Step 5: Selection of structures suited to the terrain and ground conditions.
- Step 6: Final design of the distribution line and placement of towers.
- Step 7: Issuing of tenders and eventually appointment of contractors for the project.
- Step 8: Vegetation clearance and construction of access roads (if required).
- Step 9: Pegging of structures.
- Step 10: Construction of foundations.
- Step 11: Assembly and erection of structures.
- Step 12: Stringing of conductors.
- Step 13: Rehabilitation of disturbed areas and protection of erosion sensitive areas.
- Step 14: Testing and commissioning.
- Step 15: Operation and routine maintenance.

It is estimated that the construction period for this project will be 18-24 months.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

**Paragraphs 3 – 13 below should be completed for each alternative.**

*Two alternative routes were considered for this development, See **Figure 1** and Appendix A and **Section 1.2** for the route description. Beside these route alternatives, no other alternatives were considered for the purposes of this development. Impact Assessment of these route alternatives are presented in **Section D** of this report.*

## 3. ACTIVITY POSITION-

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

**Alternative:**

	Latitude (S):	Longitude (E):	
Alternative S1 <sup>2</sup> (preferred or only site alternative)			
Alternative S2 (if any)	N/A		
Alternative S3 (if any)			

**In the case of linear activities:**

**Alternative:**

➤ **Proposed Route (preferred or only route alternative)**

	Latitude (S):	Longitude (E):
• Starting point of the activity	26° 35'.49.29"	27° 59'.01 76"
• Middle/Additional point of the activity	26° 33'14.29"	27° 58,40.36"

<sup>2</sup> “Alternative S...” refer to site alternatives.



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- End point of the activity 

26° 31'02.05	27° 52'57.77"
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- Starting point of the activity

➤ **Alternative (Proposed Route) 4 lines**

- Middle/Additional point of the activity 

26° 35'57.36"	27° 58'50.74"
---------------	---------------
- End point of the activity 

26° 34'27.60"	27° 56'.21.44"
---------------	----------------
- End point of the activity 

26° 32'28.72"	27° 56'13.44"
---------------	---------------

**Alternative 2 (if any)**

- Starting point of the activity 

26° 33'48.19"	27° 53'59.45"
---------------	---------------
- Middle/Additional point of the activity 

26° 32'38.55"	27° 54'37.65"
---------------	---------------
- End point of the activity 

26° 31'33.38"	27° 54'10.70"
---------------	---------------

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment. *Please also Refer to **Appendix A** for the co ordinates taken every 250 m of each of the powerline alternatives and coordinates for all proposed routes.*

**4. PHYSICAL SIZE OF THE ACTIVITY**

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

**Alternative:**

- Alternative A1<sup>3</sup> (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)
- or, for linear activities:

**Size of the activity:**

N/A

**Length of the activity:**

**Alternative:**

- Alternative ( preferred and proposed)
- Proposed (4 lines)
- Alternative A1 (if any)
- Alternative A2(if any)

Preferred – <b>±21km</b>
Preferred – <b>±1.8 km</b>
Alternative 1 - <b>± 8km</b>
Alternative – <b>±5.5 km</b>

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

**Size of the**

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<sup>3</sup> "Alternative A." refers to activity, process, technology or other alternatives.

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**Alternative:**

Alternative A1 (preferred activity alternative)  
Proposed (4 lines)

*Please note that a the servitude required for a single 88kV powerline would be 22m, while the separation distance between 88kV and any other line would be 21m.*

Alternative A1 (if any)  
Alternative A2 (if any)

**site/servitude:**

22 m servitude
22 m servitude x 4=88m 21 m separation distance x 4= 84 m Total servitude required = 172 m
22m
22 m

**5. SITE ACCESS**

Does ready access to the site exist?

*Yes, powerlines can be accessed by using existing farm roads.*

If NO, what is the distance over which a new access road will be built

<b>YES</b>	

Describe the type of access road planned:

*Powerline sites can be accessed using already existing farm roads; however some upgrading of some access roads leading to some of the sites may be required to allow easy movement of construction machinery.*

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

**6. SITE OR ROUTE PLAN**

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or invested with alien species);

- 6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

**7. SITE PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

**Please refer to Appendix B**

**8. FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

*Examples of Schematic drawings of the powerline infrastructures that may be used for the development have been included in **Appendix C**. **NB:** Please note that details regarding the number and the type of towers and other support infrastructures associated with the powerline will be confirmed during the detail design phase and following the approval of the proposed development. Currently it is proposed that Steel Mono Pole 132kv Compact Line Tower Series, Stayed angle structure 0 - 90 degree deviation (D-DT 7615 ),Intermediate single circuit structure 0 degree deviation ( D DT 7611 ), Steel H-Structures For 132kv Lines, Steel Terminal H-structure 120kN Capacity 8m Cross Arm (D-DT 7808). Please refer **Appendix C** for design of the proposed structures. In order to avoid impacts on graves located in Jakobskop cemetery, four self supporting lattice structures (D-DT 7705:- 248A and D-DT 7706:- 248B) will be used at the bends. The use lattice structures eliminate the use of long stay wires that may have impact on the graves if considered.*

**9. ACTIVITY MOTIVATION**

**9(a) Socio-economic value of the activity**

- What is the expected capital value of the activity on completion?
- What is the expected yearly income that will be generated by or as a result of the activity?
- Will the activity contribute to service infrastructure?
- Is the activity a public amenity?
- How many new employment opportunities will be created in the development phase of the activity?
- What is the expected value of the employment opportunities during the development phase?
- What percentage of this will accrue to previously disadvantaged individuals?
- How many permanent new employment opportunities will be created during the operational phase of the activity?
- What is the expected current value of the employment opportunities during the first 10 years?

<b>R2,5Million</b>
<b>Unknown</b>
<b>YES</b>
<b>NO</b>
<b>Number to be determined by the Contractor</b>
<b>Unknown</b>
<b>Unknown</b>
<b>0</b>
<b>R0</b>

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Unknown
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**9(b) Need and desirability of the activity**

Motivate and explain the need and desirability of the activity (including demand for the activity):

*Project aims to strengthen the network capacity as well as to improve the quality of electricity supply in the area.*

<b>NEED:</b>			
1.	Was the relevant provincial planning department involved in the application?	<b>YES</b>	
2.	Does the proposed land use fall within the relevant provincial planning framework?	<b>YES</b>	
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

<b>DESIRABILITY:</b>			
1.	Does the proposed land use / development fit the surrounding area?	<b>YES</b>	
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	<b>YES</b>	
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	<b>YES</b>	
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
5.	Will the proposed land use / development impact on the sense of place?	<b>NO</b>	
6.	Will the proposed land use / development set a precedent?	<b>NO</b>	
7.	Will any person's rights be affected by the proposed land use / development?	<b>YES</b>	
8.	Will the proposed land use / development compromise the "urban edge"?	<b>NO</b>	
9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		
	For landowners which properties are located within the proposed route, Eskom negotiate details of the final power line route and tower positions with affected landowners individually before finalising the design. This will be undertaken as a normal part of the land and/or servitude acquisition process.		

<b>BENEFITS:</b> <i>The society will benefit by having sufficient and uninterrupted electricity supply and will also benefit the community by ensuring for sufficient supply that will also accommodate new developments in the area.</i>			
1.	Will the land use / development have any benefits for society in general?	<b>YES</b>	
2.	Explain:		
	<i>The society will benefit by having sufficient and uninterrupted electricity supply.</i>		

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3.	Will the land use / development have any benefits for the local communities where it will be located?	<b>YES</b>	
4.	Explain: <i>The construction of the power lines will benefit the community by ensuring for sufficient supply that will also accommodate future new developments in the area.</i>		

### 10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Year:
<i>Constitution of the Republic of South Africa, Act 108 of 1996</i>	<i>Republic of South Africa</i>	<i>1996</i>
<i>National Environmental Management Act (NEMA), No. 107 of 1998</i>	<i>Department of Environmental Affairs</i>	<i>1998</i>
<i>National Environmental Management Biodiversity Act, No. 10 of 2004 of 1989</i>	<i>Department of Environmental Affairs</i>	<i>1999</i>
<i>National Water Act No 36 of 1998</i>	<i>Department of Water Affairs</i>	<i>1998</i>
<i>National Environmental Management: Air Quality Act No 39 of 2004</i>	<i>Department of Environmental Affairs</i>	<i>2004</i>
<i>National Environmental Management Waste Act No 59 of 2008</i>	<i>Department of Environmental Affairs</i>	<i>2008</i>
<i>National Heritage Resources Act No. 25 of 1999</i>	<i>SAHRA</i>	<i>1999</i>
<i>Occupational Health and Safety Act No. 85 of 1993</i>	<i>Department of Labour</i>	<i>1963</i>
<i>The Conservation of Agricultural Resources Act No 43 of 1983</i>	<i>Department of Agriculture, Forestry and Fisheries</i>	<i>1983</i>
<i>Noise Control Regulations of the Environment Conservation Act (ECA) No. 73 of 1989</i>	<i>Department of Labour</i>	<i>1989</i>
<i>Public Access to Information Act No 2 of 2000</i>	<i>Department of Justice</i>	<i>2000</i>

### 11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

#### 11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

<b>YES</b>	
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If yes, what estimated quantity will be produced per month?

<b>±25m<sup>3</sup></b>	
-------------------------	--

How will the construction solid waste be disposed of (describe)?

<i>Construction waste will be collected by waste trucks on a weekly basis and disposed off at a registered landfill site.</i>
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Where will the construction solid waste be disposed of (describe)?

<i>Construction waste will be collected by waste trucks on a weekly basis and disposed off at a registered landfill site.</i>
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Will the activity produce solid waste during its operational phase?		<b>NO</b>
If yes, what estimated quantity will be produced per month?		
How will the solid waste be disposed of (describe)?		

**N/A**

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

**N/A**

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?		<b>NO</b>
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If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?		<b>NO</b>
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If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

**11(b) Liquid effluent**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?		<b>NO</b>
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If yes, what estimated quantity will be produced per month?

m<sup>3</sup>

Will the activity produce any effluent that will be treated and/or disposed of on site? <i>Chemical toilets are going to be used and the sewage waste will be collected by the Contractor on weekly basis for disposal on a hazardous waste site</i>		<b>NO</b>
--	--	-----------

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility? <i>Chemical toilets are going to be used and the sewage waste will be collected by the Contractor on weekly basis for disposal on a hazardous waste site</i>		<b>NO</b>
--	--	-----------

If yes, provide the particulars of the facility:

Facility name:		
Contact person:		
Postal address:		
Postal code:		
Telephone:		
E-mail:		

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

None, as effluent will be disposed off at the Waste Water Treatment Works

**11(c) Emissions into the atmosphere**



## BASIC ASSESSMENT REPORT

Will the activity release emissions into the atmosphere?

<b>NO</b>	
<b>NO</b>	

If yes, is it controlled by any legislation of any sphere of government?

Environmental Management : Air Quality Act No 34 of 2004

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

*During the construction phase, dust and vehicular emissions will be released as a result of earthmoving machinery. However these emissions will have a short term impact on the immediate surrounding area and thus no authorisation will be required for such emissions. Appropriate dust suppression measures must be implemented (e.g. removal of vegetation in a phased manner and using recycled water for spraying dust to reduce the impacts).*

### 11(d) Generation of noise

Will the activity generate noise?

<b>YES</b>	
<b>NO</b>	

If yes, is it controlled by any legislation of any sphere of government?

Environment Conservation Act 73 of 1989, Noise Regulation and SANS 10103

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

*Noise will be generated by construction vehicles and construction activities. It will however be short term, localised and will last during the construction phase. The noise levels are anticipated to be less during the day lesser during night time as required for suburban districts with little road traffic in terms of SANS 10103 thus no authorisation will be required.*

*In order to minimise the impacts of noise during the construction phase, construction activities should be restricted to between 07H00 and 17H00 Monday to Friday. This is required in order to avoid noise and lighting disturbances outside of normal working hours. All construction equipment must be maintained and kept in good working order to minimise associated noise impacts. If required, adequate noise suppression measures (i.e. screens, etc) must be erected around the point source of construction and/or operational noise pollution to reduce noise to an acceptable level. No noise will be generated during the operational phase of the development.*

### 12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box (es)

<i>Municipal</i>					
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

litres	
<b>NO</b>	

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

### 13. ENERGY EFFICIENCY

## BASIC ASSESSMENT REPORT

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Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

- *Fuel and Oil - Delivery Vehicles and other construction equipment will use petrol, diesel and oil. Use and number of such vehicles and machinery will be restricted to that which is absolutely necessary for the construction activities and deliveries.*

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

*Energy efficient lighting will be used where practical during the construction phase*

**SECTION B: SITE/AREA/PROPERTY DESCRIPTION - PROPOSED ROUTE (YELLOW AND RED)**

**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. 1  
(e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? YES

See **Appendices D1** (Geotechnical report), **D2** (Vegetation Assessment), **D3** (Heritage report), **D4** (Faunal Assessment), **D5** (Wetland Assessment), **D6** (Agricultural Potential), and **D7** (Visual Assessment) for the specialist studies that were conducted.

If YES, please complete the form entitled "Details of specialist and declaration of interest"

for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

The preferred power line corridor (Yellow and Red) will traverse the following properties:

**Yellow Alternative**

- *Kookfontein 545 –IQ Portion 2*
- *Kookfontein 545 –IQ Portion 13*
- *Kookfontein 545 –IQ Portion 15*
- *Kookfontein 545 –IQ Portion 84*
- *Kookfontein 545 –IQ Portion 85*
- *Vlakfontein 546 – IQ Portion 205*
- *Suttons Rest 635 –IQ Portion R/*
- *Aerovaal 637 – IQ Portion R/*
- *Dreamland Agricultural Holding*
- *Aerovaal Erf 143*
- *Aerovaal Erf 144*

**Red Alternative**

- *Doornkuil 369 – IQ Portion 1*
- *Doornkuil 369 – IQ Portion 18*
- *Wildesbeesfontein 536 IQ Portion 86*
- *Wildesbeesfontein 536 IQ Portion 16*

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.


# BASIC ASSESSMENT REPORT

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In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning: *Agriculture*

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required? 

<b>NO</b>	
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Must a building plan be submitted to the local authority? 

<b>NO</b>	
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Locality map: An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

<b>Flat</b>	<b>1:50</b>	-					
	<b>1:20</b>						

*The study area is located in a generally featureless landscape with no dramatic topographic variations. In general the landscape is very exposed due to the undulating and low-lying landscape making panoramic views possible over most parts of the study area.*

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

**2.6 Plain**

**2.7 Undulating plain / low hills**

**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following (tick the appropriate boxes)?

	<b>Proposed Route (Yellow)</b>			
Shallow water table (less than 1.5m deep)	<b>YES</b>			
Dolomite, sinkhole or doline areas	<b>YES</b>			
Seasonally wet soils (often close to water bodies)	<b>YES</b>			
Unstable rocky slopes or steep slopes with loose soil		<b>NO</b>		
Dispersive soils (soils that dissolve in water)		<b>NO</b>		
Soils with high clay content (clay fraction more than 40%)	<b>YES</b>			
Any other unstable soil or geological feature		<b>NO</b>		
An area sensitive to erosion		<b>NO</b>		

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted). **See *Geotechnical report attached as Appendix D1.***

**4. GROUNDCOVER**

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

	<b>Cultivated land</b>		<b>Building or other structure</b>	<b>Bare soil</b>

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

**See also *Vegetation Assessment report attached as Appendix D2.***

**5. LAND USE CHARACTER OF SURROUNDING AREA**

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

- 5.1 Natural area
- 5.2 Low density residential
- 5.3 Medium density residential
- 5.23 Railway line<sup>N</sup>
- 5.24 Major road (4 lanes or more)<sup>N</sup>
- 5.33 Agriculture
- 5.34 River, stream or wetland
- 5.42 Other land uses (describe

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity?

***The powerline will intersect the railway line will not be directly impacted by the development.***

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If YES, specify:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If YES, specify:

**6. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including

Archaeological or palaeontological sites, on or close (within 20m) to the site?

<b>YES</b>	
<b>YES</b>	

If YES, explain:

*The heritage specialist has identified a Farmstead, dating to the 1940's that is still in use to date.*

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

*The farmstead identified by the heritage specialist is regarded as a historical feature that has been existence for 72 years. It is a recommendation of the heritage specialist that the any impacts on this farm stead be avoided and the property boundary must be used as buffer area. A Heritage Impact Assessment was undertaken for this proposed development, see **Appendix D3.***



## BASIC ASSESSMENT REPORT

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Will any building or structure older than 60 years be affected in any way?  
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

	<b>NO</b>
	<b>NO</b>

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

BASIC ASSESSMENT REPORT

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**SECTION B: SITE/AREA/PROPERTY DESCRIPTION (PROPOSED ROUTE 4 LINES (PURPLE) - PREFERRED)**

**Important notes:**

4. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.   
(e.g. A):

5. Paragraphs 1 - 6 below must be completed for each alternative.

6. Has a specialist been consulted to assist with the completion of this section? 

YES	
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See **Appendices D1** (Geotechnical report), **D2** (Vegetation Assessment), **D3** (Heritage report), **D4** (Faunal Assessment), **D5** (Wetland Assessment), and **D6** (Visual Assessment) for the specialist studies that were conducted.

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:  
All specialist reports must be contained in Appendix D.

Property description/physical address:

*The preferred power line corridor (purple) will traverse Farm Kookfontein 545-IQ Portion 4.*

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

*Agriculture*

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

- Is a change of land-use or a consent use application required?  
Must a building plan be submitted to the local authority?

NO	
NO	

# BASIC ASSESSMENT REPORT

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Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

<b>Flat</b>	<b>1:50</b>	<b>–</b>					
	<b>1:20</b>						

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

**2.6 Plain**

## 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

**Proposed Route**

**4 lines:**

Shallow water table (less than 1.5m deep)	<b>YES</b>				
Dolomite, sinkhole or doline areas	<b>YES</b>				
Seasonally wet soils (often close to water bodies)	<b>YES</b>				
Unstable rocky slopes or steep slopes with loose soil	<b>YES</b>				
Dispersive soils (soils that dissolve in water)	<b>YES</b>				

**BASIC ASSESSMENT REPORT**

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Soils with high clay content (clay fraction more than 40%)	<b>NO</b>
Any other unstable soil or geological feature	<b>NO</b>
An area sensitive to erosion	<b>NO</b>

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted). **See *Geotechnical report attached as Appendix D1.***

**4. GROUND COVER**

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

	<b>Cultivated land</b>		<b>Building or other structure</b>
			<b>Bare soil</b>

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

*See also Vegetation Assessment report attached as Appendix D2.*

**6. LAND USE CHARACTER OF SURROUNDING AREA**

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

- 5.1 Natural area**
- 5.2 Low density residential**
- 5.7 Light industrial**
- 5.24 Major road (4 lanes or more)<sup>N</sup>**
- 5.33 Agriculture**

If any of the boxes marked with an “N” are ticked, how this impact will / be impacted upon by the proposed activity?

BASIC ASSESSMENT REPORT

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If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?  
 If YES, specify and explain: \_\_\_\_\_  
 If YES, specify: \_\_\_\_\_

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity?  
 If YES, specify and explain: \_\_\_\_\_  
 If YES, specify: \_\_\_\_\_

**6. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	<b>YES</b>	
Archaeological or palaeontological sites, on or close (within 20m) to the site?	<b>YES</b>	
If YES, explain:	<i>Culvert of dressed stone that formed part of old railway line.</i>	
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	<i>According the heritage specialist, a culvert of dressed stone that forms part of the railway was noted to exist closer to these proposed four routes. This culvert is regarded as a historical feature and it is a recommendation of a heritage specialist that a buffer of about 10 m be determined around structure as the area should be treated as a no-go area. A Heritage Impact Assessment was undertaken for this proposed development, see <b>Appendix D3.</b></i>	
Will any building or structure older than 60 years be affected in any way?		<b>NO</b>
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		<b>NO</b>

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

**SECTION B: SITE/AREA/PROPERTY DESCRIPTION (ALTERNATIVE 1)**

**Important notes:**

7. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. 3  
(e.g. A):

8. Paragraphs 1 - 6 below must be completed for each alternative.

9. Has a specialist been consulted to assist with the completion of this section? 

YES	
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See **Appendices D1** (Geotechnical report), **D2** (Vegetation Assessment), **D3** (Heritage report), **D4** (Faunal Assessment), **D5** (Wetland Assessment), and **D6** (Visual Assessment) for the specialist studies that were conducted.

If YES, please complete the form entitled "Details of specialist and declaration of interest"

for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

*The preferred power line corridor will traverse the following properties:*

- Kookfontein 545 IQ Portion 64
- Kookfontein 545 IQ Portion 93
- Kookfontein 541 –IQ Portion 29
- Damfontein 541 –IQ Portion 11
- Damfontein 541 –IQ Portion 21
- Vlakfontein 546 –IQ Portion 2
- Vlakfontein 546 –IQ Portion 17
- Vlakfontein 546 –IQ Portion 46
- Vlakfontein 546 –IQ Portion 47
- Vlakfontein 546 –IQ Portion 48
- Vlakfontein 546 –IQ Portion 50
- Vlakfontein 546 –IQ Portion 55
- Vlakfontein 546 –IQ Portion 164
- Vlakfontein 546 –IQ Portion 205
- Vlakfontein 546- IQ Portion 208
- Dreamland AH 143
- Dreamland AH 148
- Dreamland AH 162
- Dreamland AH 171
- Dreamland AH 5
- Vlakfontein 546 –IQ Portion 26
- Roshnee Erf 1118

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.



# BASIC ASSESSMENT REPORT

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In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

<i>Agriculture</i>
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In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?

<b>NO</b>	
<b>NO</b>	

Must a building plan be submitted to the local authority?

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

<b>Flat</b>	1:50	–					
	1:20						

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.6 Plain

2.7 Undulating plain / low hills

**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following (tick the appropriate boxes)?

**Alternative S1:**

Shallow water table (less than 1.5m deep)	<b>YES</b>			
Dolomite, sinkhole or doline areas	<b>YES</b>			
Seasonally wet soils (often close to water bodies)	<b>YES</b>			
Unstable rocky slopes or steep slopes with loose soil	<b>YES</b>			
Dispersive soils (soils that dissolve in water)	<b>YES</b>			
Soils with high clay content (clay fraction more than 40%)	<b>YES</b>			
Any other unstable soil or geological feature		<b>NO</b>		
An area sensitive to erosion		<b>NO</b>		

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted). *See Geotechnical report attached as Appendix D1.*

**4. GROUNDCOVER**

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

<b>Cultivated land</b>		<b>Building or other structure</b>	<b>Bare soil</b>

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

*See also Vegetation Assessment report attached as Appendix D2.*

**7. LAND USE CHARACTER OF SURROUNDING AREA**

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

**5.1 Natural area**

**5.2 Low density residential**

**5.15 Dam or reservoir**

**5.32 Plantation**

**5.33 Agriculture**

**5.34 River, stream or wetland**

**5.39 Protected Area**

**5.40 Graveyard**

**5.41 Archaeological site**

**5.42 Other land uses (describe)**

- *Roshnee town*

- *Distribution powerlines*

- *Roads*

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity?

N/A

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If YES, specify:

N/A

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

If YES, specify:

N/A

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	YES	
Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES	

If YES, explain:

*Two Cemeteries in Roshnee, rock engraving site at Redan, open site where stone tools were recovered some years ago were noted to exist within the study area where this Alternative 1 is located. Closer and of major concern with regard to this alternative are two cemeteries (one more formal and other less formal) which are currently used by community. There is also a stone age heritage feature (open site where stone tool were recovered some years ago) located on the south eastern part of this alternative.*

*Please note that the two cemeteries highlighted above are at a bend point where Alternative 1 joins Alternative 2.*

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

*From a heritage point of view, the Stone age features (rock art and the open site where stone stools were discovered some years ago) are unlikely to be impacted by the proposed route. With regard to the impacts on the two cemeteries that were located in closer proximity to this route, the section of this original route was slight adjusted/rerouted to avoid direct impact on these two cemeteries. It is recommendation of the heritage specialist that approximately a distance of 3m should be kept around the Jakobskop cemetery outermost graves to ensure that damage is not during the construction of a powerline. Details regarding the identified heritage feature are contained in **Figure 7** and Appendix 3 of the Heritage Impact Assessment attached as **Appendix D2** of this report.*

Will any building or structure older than 60 years be affected in any way?		NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		NO

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

**SECTION B: SITE/AREA/PROPERTY DESCRIPTION (ALTERNATIVE 2)**

**Important notes:**

10. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. 4  
(e.g. A):

11. Paragraphs 1 - 6 below must be completed for each alternative.

12. Has a specialist been consulted to assist with the completion of this section? 

YES	
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See **Appendices D1** (Geotechnical report), **D2** (Vegetation Assessment), **D3** (Heritage report), **D4** (Faunal Assessment), **D5** (Wetland Assessment), **D6** (Agricultural Potential), and **D7** (Visual Assessment) for the specialist studies that were conducted.

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:  
All specialist reports must be contained in Appendix D.

Property description/physical address: 

<i>Alternative 2 power line corridor will traverse the following properties:</i> <ul style="list-style-type: none"><li>• <i>Kookfontein 545 –IQ Portion 4</i></li><li>• <i>Kookfontein 545 –IQ Portion 55</i></li></ul> <p>(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.</p>

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning: 

<i>Agriculture, recreational</i>
----------------------------------

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

- Is a change of land-use or a consent use application required? 

NO	
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- Must a building plan be submitted to the local authority? 

NO	
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# BASIC ASSESSMENT REPORT

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Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

Flat	1:50	-					
	1:20						

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

**2.6 Plain**

**2.7 Undulating plain / low hills**



**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following (tick the appropriate boxes)?

**Alternative 2:**

Shallow water table (less than 1.5m deep)	<b>YES</b>	
Dolomite, sinkhole or doline areas		<b>NO</b>
Seasonally wet soils (often close to water bodies)		<b>NO</b>
Unstable rocky slopes or steep slopes with loose soil	<b>YES</b>	
Dispersive soils (soils that dissolve in water)		<b>NO</b>
Soils with high clay content (clay fraction more than 40%)	<b>YES</b>	
Any other unstable soil or geological feature		<b>NO</b>
An area sensitive to erosion		<b>NO</b>

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted). See *Geotechnical report attached as **Appendix D1***.

**4. GROUNDCOVER**

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

	<b>Cultivated land</b>		<b>Building or other structure</b>
			<b>Bare soil</b>

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

*See also Vegetation Assessment report attached as **Appendix D2***.

**8. LAND USE CHARACTER OF SURROUNDING AREA**

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

- 5.15 Dam or reservoir**
- 5.33 Agriculture**
- 5.34 River, stream or wetland**
- 5.42 Other land uses (describe)
  - Caravan Park
  - Agricultural holdings

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If YES, specify:

|

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

If YES, specify:

|

|

**6. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?

<b>YES</b>	
<b>NO</b>	

If YES, explain:

*Two cemeteries currently used by the local community. Please note that the two cemeteries highlighted above are at a bend point where Alternative 1 joins Alternative 2.*

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

*The impacts on the two cemeteries that were located in the south western part or the beginning of Alternative 2 were mitigated by the slight realignment of the original section of this route. It is recommendation of the heritage specialist that approximately a distance of 3m should be kept around the Jakobskop cemetery outermost graves to ensure that damage is not during the construction of a powerline. A Heritage Impact Assessment was undertaken for this proposed development, see **Appendix D3**.*

Will any building or structure older than 60 years be affected in any way?

	<b>NO</b>
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## BASIC ASSESSMENT REPORT

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Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

	<b>NO</b>
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If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

*Please refer to **Appendix E1** for the copy of the advertisement*

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;
 

*Please note that site notices were erected along the proposed and alternative routes. Refer to **Appendix E2** for a copy and photos of site notices.*
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 

*The Land owners were given the written notice regarding the proposed development. Refer to **Appendix E3** for a proof of land owners notification and **Appendix E4** for the Interested and Affected Party Database*
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area; *The ward councillor was notified.*

*Refer to **Appendix E3** for a copy of notification letter sent to ward councillor, community organisation and other stakeholders.*
  - (v) the municipality which has jurisdiction in the area;
 

*The ward councillor was notified. Refer to **Appendix E3** for a copy of notification letter sent to ward councillor, community organisation and other stakeholders.*
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vii) any other party as required by the competent authority;
 

*The ward councillors were notified. Refer to **Appendix E3** for a copy of notification letter sent to ward councillor, community organisation and other stakeholders.*
- (c) placing an advertisement in—
  - (i) one local newspaper or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—

- (i) illiteracy;
- (ii) disability; or
- (iii) any other disadvantage.

*Two newspaper adverts were placed on the Vaalweekblad and Vanderbijlpark Ster on the 20 January 2012. Refer to **Appendix E1** for copies of the newspaper advertisements.*

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (iv) the manner in which and the person to whom representations in respect of the application may be made.

## 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

*Two newspaper adverts were placed on the Vaalweekblad and Vanderbijlpark Ster on the 20 January 2012. Refer to **Appendix E1** for copies of the newspaper advertisements.*

## 4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

**5. COMMENTS AND RESPONSE REPORT**

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

*See Comments Response Report attached as **Appendix E5** of this report*

**6. AUTHORITY PARTICIPATION**

**Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.**

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

List of authorities informed:

- |   |
|---|
| <ul style="list-style-type: none"><li>- <i>Gauteng Department of Agriculture and Rural Development;</i></li><li>- <i>The Department of Water Affairs;</i></li><li>- <i>Department of Public Works;</i></li><li>- <i>Department of Land Affairs;</i></li><li>- <i>Emfuleni Local Municipality;</i></li><li>- <i>City of Johannesburg;</i></li><li>- <i>Midvaal Local Municipality; and</i></li><li>- <i>SAHRA.</i></li></ul> |
|   |

List of authorities from whom comments have been received:

Emfuleni Local Municipality
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**7. CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority. Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

YES	<input type="checkbox"/>
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

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## BASIC ASSESSMENT REPORT

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*There were no significant issues of major concern to the project that was raised by I&APs and land owners. Issues raised to date can be simply addressed through the implementation of mitigation measures stipulated in the attached EMPr (refer to **Appendix F**).*

## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

- *Potential impacts on plants, animals and human life;*
- *Potential impact on future development plans; and*
- *Public health and safety issues.*

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

*See Comments Response Report attached as **Appendix E** of this report*

### 2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

- **Impact Assessment and Rating Methodology (The impact assessment methodology is attached as Appendix G2.)**

The significance of impacts will be rated from **Low, Medium to High** where:

**Low:** Little influence on the receiving environment

**Medium:** Will have an influence on the receiving environment unless mitigated

**High:** Will have an influence on the receiving environment regardless of mitigation

#### **Direct impacts: (Construction phase)**

*Various specialist assessment (**Appendix D**) has been undertaken to identify potential stability issues that may emanate from this development.*



## BASIC ASSESSMENT REPORT

*The impacts are assessed and presented as follows:*

**Proposal Alternative (Yellow and Red)** - Please also refer to the draft EMP, Specialist assessment and Eskom's minimum standards for vegetation management and erosion control reports for details on other applicable mitigation measures

Potential impacts:	Description	Significance rating of impacts: (without mitigation)	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
<b>1. Impacts on flora</b>	This route is proposed to align through mainly grassland areas, as well as the Fouriespruit. This proposed route goes through approximately 3,2km of wetland and riparian areas before reaching the Ironside substation.	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Contractor with the assistance of the environmental officer must identify and label trees that must not be removed during the construction of the access roads</li> <li>2. Rehabilitation / restoration of indigenous vegetative cover;</li> <li>3. Management of point discharges during construction activities;</li> <li>4. Alien plant control activities;</li> <li>5. Implementation of best management practices regarding stormwater and earthworks;</li> <li>6. Provision of adequate sanitation facilities located outside of the wetland/riparian area or its associated buffer zone during construction activities;</li> <li>7. Implementation of appropriate stormwater management around the excavation to prevent the ingress of run-off into the excavation; and particularly;</li> <li>and</li> <li>8. Prevention of erosion, and where necessary rehabilitation of eroded areas.</li> </ol>	<b>Low</b>

## BASIC ASSESSMENT REPORT

<p><b>2. Impacts on wetlands and other water bodies</b></p>	<p>The Proposed Route (Kookfontein to Ironside) intersects four wetland and riparian areas. Construction of towers on the wetland could potentially affect the wetland soil and vegetation through the compaction of the wetland soils, the trampling, smothering of wetland vegetation and the resultant exposure of wetland soils which would result in desiccation and erosion.</p>	<p><b>High</b></p>	<ol style="list-style-type: none"> <li>1. The applicable Water Use licences must be applied for once the relevant activity has been approved by DEA</li> <li>2. Control of activities directly impacting on wetland resources e.g. Few construction workers and construction machinery must be allowed in the wetland area to limit the impacts</li> <li>3. Construction of access roads on the wetland need to be planned carefully to minimise the impacts.</li> <li>4. Construction in the wetland area must be undertaken in the presence of the independent Environmental Control officer</li> <li>5. Cement mixing will need to take place on a hard surface or cement mixing trays will need to be used for this purpose. Cement mixing will not be permitted to occur where run-off can enter stormwater drains or water bodies.</li> <li>6. No vehicle washing must occur on site unless in a designated wash bay which must then be constructed. Wash bays must be installed with sand and grease traps.</li> <li>7. A 30m buffer from the wetland is recommended and must be implemented where practical and possible.</li> <li>8. Management of on-site water use</li> </ol> <p><i>(It is a recommendation of the wetland specialist that these alternatives should be avoided where possible as they pose significant impacts)</i></p>	<p><b>High - medium</b></p>
<p><b>3. Impacts on fauna</b></p>	<p>Vegetation clearance and Grading resulting in fragmentation and</p>	<p><b>High</b></p>	<ol style="list-style-type: none"> <li>1. No killing of fauna will be allowed on site</li> </ol>	<p><b>Moderate</b></p>

**BASIC ASSESSMENT REPORT**

	alteration of existing habitat		<ol style="list-style-type: none"> <li>2. Areas not impacted by the associated infrastructure, as well as those considered to have a high biological diversity, should be maintained in their present states;</li> <li>3. Maintenance activities should be limited to daylight hours and vehicles should remain on the designated roads at all times; and</li> <li>4. The subsidiary road network should be maintained as gravel tracks that allow for fauna dispersal.</li> </ol>	
<b>4. Increased soil erosion:</b>	<ul style="list-style-type: none"> <li>- Loss of fertile topsoil will occur due to the initial vegetation clearing (for access roads to tower site); and construction earthworks may cause increased soil erosion as well as stormwater runoff.</li> <li>- The area where the power line is proposed to be constructed may be undulating.</li> </ul>	<b>Medium</b>	<p>Construction phase:</p> <ol style="list-style-type: none"> <li>1. It is recommended that care should be taken when constructing a power line as this might result in soil erosion If at all possible, construction activities should preferably take place during the dry winter months.</li> <li>2. Contractors must limit vegetation clearing to the workable corridor/site along the powerline and the tower sites only. The contractor must stabilise cleared areas to prevent and control erosion and/or sedimentation. Only vegetation that needs to be removed to accommodate the powerline infrastructure must be removed in a</li> <li>3. Dust suppression is necessary for stockpiles older than a month.</li> <li>4. Stockpiles in excavated areas should not be higher than 2 m to avoid compaction and visual impacts.</li> <li>5. To prevent erosion of materials stockpiled for a long period of time, the material must be retained in a bermed area.</li> </ol>	<b>Low</b>

## BASIC ASSESSMENT REPORT

			<p>6. Grading of the site is required after construction to ensure free flow of runoff and to prevent ponding of water</p> <p>7. The topsoil must be stockpiled separately and used for rehabilitating around the tower site. Should topsoil remain, the locals should be encouraged to take the soil and place it on their vegetable patches.</p> <p>Operational phase:</p> <ul style="list-style-type: none"> <li>• Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ul>	
<b>5. Noise impacts</b>	Vehicles transporting materials to and from the site will potentially cause an additional noise burden to adjacent residents as well as along internal access roads.	<b>Medium</b>	<p>1. Construction activities to be limited to office hours on weekdays as far as possible.</p> <p>2. The contractor must ensure that noise levels remain within acceptable limits</p>	<b>Low</b>
<b>6.Impacts on ground water:</b> Groundwater contamination due to construction activities.	Hydrocarbon leakages from plant vehicles and poor management of sources of hydrocarbon leakages has a potential to pollute underground and surrounding resources	<b>Medium</b>	<p>1. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</p> <p>2. All cement mixing must occur on impervious surfaces and within controlled bermed areas.</p> <p>3. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site.</p> <p>4. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</p> <p>5. No materials may be discharged from the construction camps.</p>	<b>Low</b>
<b>7.Impacts on stormwater:</b> The accumulation of		<b>Medium</b>	<p>1. No stockpiles or construction materials may be stored or placed within any drainage line that may be in close proximity of storm water</p>	<b>Low</b>

## BASIC ASSESSMENT REPORT

stormwater.			<p>drains.</p> <p>2. No stockpiles or construction materials may be stored or placed in close proximity to storm water drains.</p> <p>3. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</p>	
<p><b>8.Impact on dust and air quality:</b> The influx of pollutants will occur due to the establishment of the construction camp and the movement of people and vehicles on site. Excavated and stockpiled material that is vulnerable to wind has the potential to contribute to the influx of pollutants in the air.</p>	<p>Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads</p>	<p><b>Medium to Low</b></p>	<p>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</p> <p>2. A continuous dust monitoring process needs to be undertaken during construction.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. All vehicles transporting friable materials such a sand, rubble etc must be covered by a tarpaulin or wet down.</p> <p>5. Construction work to be undertaken during weekdays as far as practical.</p>	<p><b>Low</b></p>
<p><b>8.Impact on visual and aesthetic quality:</b></p>	<p>Stockpiled materials; workforce; and construction sites may cause visual impacts in the area.</p>	<p><b>Medium</b></p>	<p>1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Council.</p> <p>2. No wastes may remain on the construction site for more than two weeks.</p> <p>3. Supply sufficient garbage bins throughout the site and empty regularly.</p> <p>4. Ensure good housekeeping is implemented at all times.</p> <p>5. Keep the property neat and litter free at all</p>	<p><b>Low</b></p>

## BASIC ASSESSMENT REPORT

			<p>times and maintain the landscaped areas.</p> <p>6. Indigenous vegetation should be used to create habitats that attract the natural fauna in the area as far as possible</p> <p>7. The Construction camp must be contained to prevent any visual intrusion and be kept in a clean and orderly state at all times.</p> <p>8. When vertical structures or surfaces are lit such as building facades or signs, direct the light downwards.</p>	
<p><b>9.Impact on socio-economics:</b> Impact on nearby residential areas.</p>	<p><b>Influx of workers in the area may raise concerns from neighbouring residents</b></p>	<p><b>Medium positive</b> -</p>	<p>1. All adjacent landowners must be informed of the construction processes prior to commencement of construction activities.</p> <p>2. Adjacent land owners must be informed timeously of any service stoppages in their areas.</p> <p>3. Notification must include possible timeframes for stoppages.</p> <p>4. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners.</p> <p>5. Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so alternatives can be provided.</p>	<p><b>Low - positive</b></p>
<p><b>10.Impacts on traffic and local roads :</b></p>	<p>1. Traffic will be congested as a result of construction activities.</p> <p>2. Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads.</p>	<p><b>Medium</b></p>	<p><b>Construction phase:</b></p> <p>1. Vehicular movement beyond the property boundaries may not occur during peak hour traffic times (07h30 – 08h30 and 16h00 – 17h00).</p> <p>2. It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient</p>	<p><b>Low</b></p>

## BASIC ASSESSMENT REPORT

			<p>and effective access control system.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated</p> <p><b>Operational phase:</b></p> <p>1. Roads should be adequately maintained.</p> <p>2. Adequate signage should be provided and adhered to.</p>	
<b>11. Health and Safety impacts</b>	Impacts/injuries to animals or humans entering the site unnoticed	<b>Medium</b>	<p>1. The construction site and tower excavations must be fenced off and demarcated using danger tape to ensure that no animals or residents enter the area.</p> <p>2. Safety clothes and equipment must be worn at all times.</p> <p>3. No fires are allowed at or around the construction site. The contractor must provide gas fired stoves and heaters to the workers</p>	<b>Low</b>
<b>12. Impact on socio-economics:</b> Economic and employment status will be impacted on due to access and road construction and building	Local residents are likely to get some of the unskilled labour employment opportunities	<b>Medium +</b>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <p>1. The construction phase will provide direct temporary employment for locals, and indirect employment through demand for construction materials, and support services, as well as empowerment and skills transfer opportunities.</p> <p>2. During operation, there will be job opportunities and continued potential for skills transfer.</p>	<b>Low +</b>

## BASIC ASSESSMENT REPORT

<p><b>13.Impact on infrastructure services:</b></p>	<p>The status of the infrastructure services may be impacted on through the establishment of the site and the construction of access roads where required.</p>	<p><b>Low</b></p>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <ol style="list-style-type: none"> <li>1. The status of the infrastructure services in the surrounding area will be improved through the establishment of the site and the upgrade of roads in the area.</li> <li>2. Insect the site for burst, blocked or leaking water pipe</li> <li>3. During the operational phase, the sewage system must be inspected for leakages on regular basis and any leakages must be attended to immediately.</li> </ol>	<p><b>Low</b></p>
<p><b>14.Impacts on unknown and existing cultural and heritage resources</b></p>	<p>Farmstead, dating 1940s, exist within this powerline route</p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>1. Avoid and possible impact on the farmstead</li> <li>2. Use the property boundary as a buffer</li> <li>3. The construction team should be made aware of this. Should any archaeological material or human remains be accidentally unearthed during the course of construction</li> <li>4. Construction personnel must be alert and inform local Council should they come across any features of heritage value and must cease construction activities immediately</li> <li>5. No heritage feature can be removed, destroyed and/or interfered with on site without the permission of an accredited archaeologist</li> </ol>	<p><b>Low</b></p>
<p><b>Operational phase impacts:</b> <i>Impacts during the operational phase are expected to occur during the maintenance of the powerline. The following impacts are anticipated:</i></p>				



## BASIC ASSESSMENT REPORT

Potential impacts:	Description of Impact	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
1. Clearance of vegetation	- <b>Maintenance of servitude</b>	<b>Low</b>	- Plants that are not interfering with the operation of the powerline during the maintenance must not be disturbed.	<b>Low</b>
2. Noise and dust pollution	- <b>Noise and dust may occur during maintenance of the powerline</b>	<b>Medium to Low</b>	- Existing access roads need to be used all the time - Limit maintenance hours to daytime and weekday - Ensure that noise levels are in accordance with SANS 10103 for residential areas by implementing a monitoring programme	<b>Low</b>
3. Wetland impacts	- <b>Maintenance and clearing of the servitude through the use of chemicals may also pollute nearby watercourses if not properly undertaken.</b>	<b>Medium</b>	- Care must be taken all the time when applying the herbicide to remove aliens	<b>Low</b>
4. Soil erosion	<b>Storm water runoff may cause soil erosion from the tower foundations</b>	<b>Medium</b>	- Regularly inspect all storm water channels - Provide soil conservation measures in areas of susceptible erosion around the tower foundations	<b>Low</b>
5. Disruption to local residents	<b>Power cuts during maintenance may disrupt local people</b>	<b>Medium</b>	- Inform residents if planned power cuts at least 15 -30 days before implementing	<b>Low</b>
<p><b>Decommissioning phase</b> - <i>The decommissioning phase would entail the dismantling of the powerlines, the construction of access roads for dismantling (if applicable) and the transportation of materials from the sites. It is anticipated that the structures will be dismantled and removed and a rehabilitation plan (removal of all hydrocarbons, tower structures and provision of recycling plans) approved by the relevant authorities will be implemented. However the closure and decommissioning require a separate EIA process and will be conducted as and</i></p>				

*when closure is required.*

***Indirect impacts:***

- The construction of the access road to powerlines sites will result in impact, though of a minimal nature - vegetation clearing when widening the roads.
- Loss of topsoil due to earthworks and foundation establishment for the tower structures.
- Noise from construction vehicles and equipments and the labourers

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**Proposed route (4 lines): - Please also refer to the draft EMPr, Specialist assessment reports for details on other applicable mitigation measures**

Potential impacts:	Description	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
<p><b>1. Impacts on local roads in particular to proposed provincial road K53</b></p>	<ul style="list-style-type: none"> <li>- There is a K53 road that is proposed by the Department of Public Works in vicinity to the site</li> <li>- Transporting tower infrastructure and heavy machinery to site may lead to local road deterioration</li> </ul>	<b>Medium</b>	<p><b>Construction phase:</b></p> <ol style="list-style-type: none"> <li>1. Consultation with the Department of Public works regarding possible impacts from the powerline before construction</li> <li>2. Access road to the proposed site via farm roads would require regular monitoring and maintenance to prevent potential erosion problems</li> </ol> <p><b>Operational phase:</b></p> <ol style="list-style-type: none"> <li>1. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</li> <li>2. Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ol>	<b>Low</b>
<p><b>3. Environmental Nuisances (dust and noise)</b> Groundwater contamination due to construction activities.</p>	<p><b>Dust and noise from heavy machinery transporting powerline infrastructure may be of concern to local residents</b></p>	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</li> <li>2. A continuous dust monitoring process needs to be undertaken during construction.</li> </ol>	<b>Low</b>

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			<p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. Adequate signage should be provided and adhered to.</p> <p>5. Noisy vehicles and construction machinery must have silencers to reduce the noise levels in the area.</p> <p>6. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</p>	
<p>4. Hydrocarbon leakages from construction machinery and heavy vehicles</p>	<p><b>Machinery and heavy vehicles have a potential to spill oils and chemicals on the ground</b></p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>1. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site.</li> <li>2. Vehicles and equipment should not be washed, serviced or refuelled on-site if possible, but taken to a relevant workshop or service station to prevent potential contamination of surface water and surrounding areas by these pollutants.</li> <li>3. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</li> <li>4. No materials may be discharged from the construction camps.</li> <li>5. 6. During the operation phase of the development, regular maintenance of the sewage</li> </ol>	<p><b>Low</b></p>

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			pipelines is required to prevent sewerage leaks.	
<b>5. Impacts on flora</b>	Construction impacts on flora are likely to be limited to the existing shrubs occupying the site and potentially to limited areas along the access roads leading to the site. There is no anticipated impact on Red or Orange Data species within the site during the construction phase.	<b>Low</b>	Contractor with the assistance of the environmental officer must identify and label trees that must not be removed during the construction of the access roads	<b>Low</b>
<b>6. Impacts on fauna</b>	There is no anticipated impact on Red or Orange Data species within and around the site	<b>Low</b>	No killing of fauna will be allowed on site	<b>Low</b>
<b>7. Increased soil erosion:</b>	Loss of fertile topsoil will occur due to the initial vegetation clearing (for access roads) only; and construction earthworks may cause increased soil erosion as well as stormwater runoff.	<b>Medium</b>	<p>Construction phase:</p> <ol style="list-style-type: none"> <li>1. If at all possible, construction activities should preferably take place during the dry winter months.</li> <li>2. Stockpiles (if applicable) must be covered in excess during windy conditions.</li> <li>3. Clearance of vegetation for access road should be minimized and delayed to minimized exposed areas that might be prone to erosion during heavy rains</li> <li>4. Dust suppression is necessary for stockpiles older than a month.</li> <li>5. Stockpiles should not be higher than 2 m to avoid compaction and visual impacts.</li> <li>6. To prevent erosion of materials stockpiled for a long period of time, the material must be retained in a bermed</li> </ol>	<b>Low</b>

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			<p>area.</p> <p>7. The energy / velocity of storm water runoff should be dissipated using metre drains at appropriate intervals.</p> <p>8. Grading of the site is required after construction to ensure free flow of runoff and to prevent ponding of water</p> <p>9. The topsoil must be stockpiled separately and used for rehabilitating around the tower site. Should topsoil remain, the locals should be encouraged to take the soil and place it on their vegetable patches.</p> <p><b>Operational phase:</b></p> <ul style="list-style-type: none"> <li>• Litter blocking storm water systems must be removed.</li> <li>• Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ul>	
<b>8. Noise impacts</b>	Vehicles transporting materials to and from the site will potentially cause an additional noise burden to adjacent residents as well as along internal access roads.	<b>Medium</b>	<p>1. Construction activities to be limited to office hours on weekdays as far as possible.</p> <p>2. The contractor must ensure that noise levels remain within acceptable limits</p>	<b>Low</b>
<b>9. Impacts on ground water:</b> Groundwater contamination due to construction activities. <i>Also refer to impact 3</i>	Hydrocarbon leakages from plant vehicles and poor management of sources of hydrocarbon leakages has a potential to pollute underground water resources	<b>Medium</b>	<p>1. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</p> <p>2. All cement mixing must occur on impervious surfaces and within controlled bermed areas.</p> <p>3. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed</p>	<b>Low</b>

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			<p>waste disposal site.</p> <p>4. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</p> <p>5. No materials may be discharged from the construction camps.</p> <p>6</p>	
<p><b>10. Impacts on stormwater:</b> The accumulation of stormwater.</p>		<b>Medium</b>	<p>1. No stockpiles or construction materials may be stored or placed within any drainage line that may be in close proximity of storm water drains.</p> <p>2. No stockpiles or construction materials may be stored or placed in close proximity to storm water drains.</p> <p>3. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required</p>	<b>Low</b>
<p><b>11. Impact on dust and air quality:</b> The influx of pollutants will occur due to the establishment of the construction camp and the movement of people and vehicles on site. Excavated and stockpiled material that is vulnerable to wind has the potential to contribute to the influx of pollutants in the air.</p>	<p>Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads</p>	<b>Medium to Low</b>	<p>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</p> <p>2. A continuous dust monitoring process needs to be undertaken during construction.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. All vehicles transporting friable materials such a sand, rubble etc must be covered by a tarpaulin or wet down.</p> <p>5. Construction work to be undertaken during weekdays as far as practical.</p>	<b>Low</b>
<p><b>12. Impact on visual and aesthetic quality:</b></p>	<p>Stockpiled materials; workforce; and construction sites may cause visual</p>	<b>Medium</b>	<p>1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be</p>	<b>Low</b>

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	impacts in the area.		<p>placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Council.</p> <p>2. No wastes may remain on the construction site for more than two weeks.</p> <p>3. Supply sufficient garbage bins throughout the site and empty regularly.</p> <p>4. Ensure good housekeeping is implemented at all times.</p> <p>5. Keep the property neat and litter free at all times and maintain the landscaped areas.</p> <p>6. Indigenous vegetation should be used to create habitats that attract the natural fauna in the area as far as possible</p> <p>7. The Construction camp must be contained to prevent any visual intrusion and be kept in a clean and orderly state at all times.</p> <p>8. When vertical structures or surfaces are lit such as building facades or signs, direct the light downwards.</p> <p>9. Landscaping should be maintained.</p>	
<p><b>13.Impact on socio-economics:</b> Impact on nearby residential areas.</p>	<p><b>Influx of workers in the area may raise concerns from neighbouring residents</b></p>	<p><b>Medium - positive</b></p>	<p>1. All adjacent landowners must be informed of the construction processes prior to commencement of construction activities.</p> <p>2. Adjacent land owners must be informed timeously of any service stoppages in their areas.</p> <p>3. Notification must include possible</p>	<p><b>Low - positive</b></p>



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			<p>timeframes for stoppages.</p> <p>4. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners.</p> <p>5. Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so alternatives can be provided.</p>	
<p><b>14 .Impacts on traffic and local roads : Also refer to impact 1</b></p>	<p>1. Traffic will be congested as a result of construction activities.</p> <p>2. Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads.</p>	<p><b>Medium</b></p>	<p><b>Construction phase:</b></p> <p>1. Vehicular movement beyond the property boundaries may not occur during peak hour traffic times (07h30 – 08h30 and 16h00 – 17h00).</p> <p>2. It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient and effective access control system.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated</p> <p><b>Operational phase:</b></p> <p>1. Roads should be adequately maintained.</p> <p>2. Adequate signage should be provided and adhered to.</p>	<p><b>Low</b></p>

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<p><b>15. Health and Safety impacts</b></p>	<p>Impacts/injuries to animals or humans entering the site unnoticed</p>	<p><b>Medium</b></p>	<p>1. The construction site and tower excavation must be fenced off and demarcated using danger tape to ensure that no animals or residents enter the area. 2. Safety clothes and equipment must be worn at all times. 3. No fires are allowed at or around the construction site. The contractor must provide gas fired stoves and heaters to the workers</p>	<p><b>Low</b></p>
<p><b>16. Impact on socio-economics:</b> Economic and employment status will be impacted on due to access and road construction, building construction, paving construction and landscaping.</p>	<p>Local residents are likely to get some of the unskilled labour employment opportunities</p>	<p><b>Medium +</b></p>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <p>1. The construction phase will provide direct temporary employment for locals, and indirect employment through demand for construction materials, and support services, as well as empowerment and skills transfer opportunities. 2. During operation, there will be job opportunities and continued potential for skills transfer.</p>	<p><b>Low</b></p>
<p><b>17. Impact on infrastructure services:</b></p>	<p>The status of the infrastructure services may be impacted on through the establishment of the site and the construction of access roads.</p>	<p><b>Low</b></p>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <p>1. The status of the infrastructure services in the surrounding area will be improved through the establishment of the site and the upgrade of roads in the area. 2. Inspect the site for burst, blocked or leaking water pipe</p>	<p><b>Low</b></p>

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			<p>3. During the operational phase, the sewage system must be inspected for leakages on regular basis and any leakages must be attended to immediately.</p>	
<p><b>18.Impacts on unknown and existing cultural and heritage resources</b></p>	<p>A railway culvert of dressed stone exists closer to these proposed four routes.</p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>1. Avoid the railway culvert</li> <li>2. Put a buffer of about 10 m around structure and treat the area as a no-go area.</li> <li>3. Avoid any form of impacts on the heritage features</li> <li>4. The construction team should be made aware of this. Should any archaeological material or human remains be accidentally unearthed during the course of construction, SAHRA must be informed</li> <li>5. Construction personnel must be alert and inform local Council should they come across any features of heritage value and must cease construction activities immediately</li> <li>6. No heritage feature can be removed, destroyed and/or interfered with on site without the permission of an accredited archaeologist</li> <li>7. The Local Municipality in consultation with Eskom must provide a fence to protect any impacts on the graveyard during the construction phase</li> </ol>	<p><b>Low</b></p>

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<p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>• The construction of the access road will result in the direct impact of minimal vegetation clearing when widening the roads.</li> <li>• Loss of topsoil due to earthworks and foundation establishment for the tower infrastructure.</li> <li>• Noise from construction vehicles and equipments and the labourers</li> </ul> <p><b>Cumulative impacts:</b>  <i>Visual Cumulative impacts will emanate from the powerline itself as there are existing distribution powerlines already transecting the area</i></p>				
<p><b>Operational phase impacts:</b> <i>Impacts during the operational phase are expected to occur during maintenance of the powerline. There are no significant impacts anticipated during the operational phase of the project. The following impacts are however anticipated:</i></p>				
Potential impacts:	Description of Impact	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
1. Noise and dust pollution	- <b>Noise and dust may occur during maintenance of the powerline</b>	<b>Medium to Low</b>	<ul style="list-style-type: none"> <li>- Dust suppression and wet spraying should be implemented</li> <li>- Limit maintenance hours to daytime and weekday</li> <li>- Ensure that noise levels are in accordance with SANS 10103 for residential areas by implementing a monitoring programme</li> </ul>	<b>Low</b>
2. Soil erosion	<b>Storm water runoff may cause soil erosion outside the boundaries of the tower foundations</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>- Regularly inspect all storm water channels</li> <li>- Provide soil conservation measures in areas of susceptible erosion around the tower foundations</li> </ul>	<b>Low</b>
3. Disruption to local residents	<b>Power cuts during maintenance may disrupt local people</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>- Inform residents if planned power cuts at least 15 -30 days before implementing</li> </ul>	<b>Low</b>
<p><b>Decommissioning phase -</b> <i>The decommissioning phase would entail the dismantling of the powerlines, the construction of access roads for dismantling (if applicable) and the transportation of materials from the sites. It is anticipated that the structures will be dismantled and removed and a rehabilitation plan (removal of all hydrocarbons, tower structures and provision of recycling plans) approved by the relevant</i></p>				

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*authorities will be implemented. However the closure and decommissioning require a separate EIA process and will be conducted as and when closure is required.*

***Indirect impacts:***

- The construction of the access road will result in impact, though of a minimal nature - vegetation clearing when widening the roads.
- Loss of topsoil due to earthworks and foundation establishment for the tower infrastructure.
- Noise from construction vehicles and equipments and the labourers

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***Indirect impacts:***

- None

***Cumulative impacts:***

- None

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**Alternative 1 - Green):** - Please also refer to the draft EMP, Specialist assessment reports for details on other applicable mitigation measures

Potential impacts:	Description	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
<b>1. Impacts on wetlands</b>	<b>Route Alternative 1 intersects two wetland and riparian areas in its most northern extent</b>	<b>High</b>	<ol style="list-style-type: none"> <li>1. The applicable Water Use licences must be applied for once the relevant activity has been approved by DEA</li> <li>2. Control of activities directly impacting on wetland resources e.g. Few construction workers and construction machinery must be allowed in the wetland area to limit the impacts</li> <li>3. Construction of access roads on the wetland need to be planned carefully to minimise the impacts.</li> <li>4. Construction in the wetland area must be undertaken in the presence of the independent Environmental Control officer</li> <li>5. Cement mixing will need to take place on a hard surface or cement mixing trays will need to be used for this purpose. Cement mixing will not be permitted to occur where run-off can enter stormwater drains or water bodies.</li> <li>6. No vehicle washing must occur on site unless in a designated wash bay which must then be constructed. Wash bays must be installed with sand and grease traps.</li> <li>7. A 30m buffer from the wetland is</li> </ol>	<b>Medium</b>

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			<p>recommended and must be implemented where practical and possible.</p> <p>8. Management of on-site water use</p>	
<p><b>2. Impacts on local roads</b></p>	<p>Transporting powerline infrastructure and heavy machinery to site may lead to local road deterioration</p>	<p><b>Medium</b></p>	<p><b>Construction phase:</b></p> <ol style="list-style-type: none"> <li>1. Access road to the proposed site would require regular monitoring and maintenance to prevent potential erosion problems</li> </ol> <p><b>Operational phase:</b></p> <p>The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</p> <ol style="list-style-type: none"> <li>3. Litter blocking storm water systems must be removed.</li> <li>4. Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ol>	<p><b>Low</b></p>
<p><b>3. Environmental Nuisances (dust and noise)</b></p> <p>Groundwater contamination due to construction activities.</p>	<p>Dust and noise from heavy machinery transporting powerline infrastructure may be of concern to local residents</p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</li> <li>2. A continuous dust monitoring process needs to be undertaken during construction.</li> <li>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</li> <li>4. Adequate signage should be provided and adhered to.</li> <li>4. Noisy vehicles and construction machinery must have silencers to reduce the noise levels in the area.</li> </ol>	<p><b>Low</b></p>

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			Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.	
<b>4. Hydrocarbon</b> leakages from construction machinery and heavy vehicles	Machinery and heavy vehicles have a potential to spill oils and chemicals on the ground	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site.</li> <li>2. Vehicles and equipment should not be washed, serviced or re-fuelled on-site if possible, but taken to a relevant workshop or service station to prevent potential contamination of surface water and surrounding areas by these pollutants.</li> <li>3. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</li> <li>4. No materials may be discharged from the construction camps.</li> <li>5. During the operation phase of the development, regular maintenance of the sewage pipelines is required to prevent sewerage leaks.</li> </ol>	<b>Low</b>
<b>6. Impacts on flora</b>	Construction impacts on flora are likely to be limited to the existing shrubs occupying the site and potentially to limited areas along the access roads leading	<b>Low</b>	Contractor with the assistance of the environmental officer must identify and label trees that must not be removed during the construction of the access roads	<b>Low</b>



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		to the site. There is no anticipated impact on Red or Orange Data species within the site during the construction phase.			
<b>7. Impacts on fauna</b>		There is no anticipated impact on Red or Orange Data species within and around the site	<b>Low</b>	No killing of fauna will be allowed on site	<b>Low</b>
<b>8. Increased erosion:</b>	<b>soil</b>	Loss of fertile topsoil will occur due to the initial vegetation clearing (for access roads) only; and construction earthworks may cause increased soil erosion as well as stormwater runoff.	<b>Medium</b>	<p>Construction phase:</p> <ol style="list-style-type: none"> <li>1. If at all possible, construction activities should preferably take place during the dry winter months.</li> <li>2. Stockpiles (if applicable) must be covered in excess during windy conditions.</li> <li>3. Clearance of vegetation for access road should be minimized and delayed to minimized exposed areas that might be prone to erosion during heavy rains</li> <li>4. Dust suppression is necessary for stockpiles older than a month.</li> <li>5. Stockpiles should not be higher than 2 m to avoid compaction and visual impacts.</li> <li>6. To prevent erosion of materials stockpiled for a long period of time, the material must be retained in a bermed area.</li> <li>7. The energy / velocity of storm water runoff should be dissipated using metre drains at appropriate intervals.</li> <li>8. Grading of the site is required after construction to ensure free flow of runoff and to prevent ponding of water</li> <li>9. The topsoil must be stockpiled separately and used for rehabilitating around the site.</li> </ol>	<b>Low</b>

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			<p>Should topsoil remain, the locals should be encouraged to take the soil and place it on their vegetable patches.</p> <p><b>Operational phase:</b></p> <ul style="list-style-type: none"> <li>• The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</li> <li>• Litter blocking storm water systems must be removed.</li> <li>• Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ul>	
<b>9. Noise impacts</b>	Vehicles transporting materials to and from the site will potentially cause an additional noise burden to adjacent residents as well as along internal access roads.	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Construction activities to be limited to office hours on weekdays as far as possible.</li> <li>2. The contractor must ensure that noise levels remain within acceptable limits</li> </ol>	<b>Low</b>
<b>10. Impacts on ground water:</b> Groundwater contamination due to construction activities. <i>Also refer to impact 3</i>	Hydrocarbon leakages from plant vehicles and poor management of sources of hydrocarbon leakages has a potential to pollute underground water resources	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</li> <li>2. All cement mixing must occur on impervious surfaces and within controlled bermed areas.</li> <li>3. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site.</li> <li>4. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</li> <li>5. No materials may be discharged from the</li> </ol>	<b>Low</b>

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			construction camps. 6	
<p><b>11. Impacts on stormwater:</b> The accumulation of stormwater.</p>		<b>Medium</b>	<p>1. No stockpiles or construction materials may be stored or placed within any drainage line that may be in close proximity of storm water drains.</p> <p>2. No stockpiles or construction materials may be stored or placed in close proximity to storm water drains.</p> <p>3. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required</p>	<b>Low</b>
<p><b>12. Impact on dust and air quality:</b> The influx of pollutants will occur due to the establishment of the construction camp and the movement of people and vehicles on site. Excavated and stockpiled material that is vulnerable to wind has the potential to contribute to the influx of pollutants in the air.</p>	Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads	<b>Medium to Low</b>	<p>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</p> <p>2. A continuous dust monitoring process needs to be undertaken during construction.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. All vehicles transporting friable materials such a sand, rubble etc must be covered by a tarpaulin or wet down.</p> <p>5. Construction work to be undertaken during weekdays as far as practical.</p>	<b>Low</b>
<p><b>13. Impact on visual and aesthetic quality:</b></p>	Stockpiled materials; workforce; and construction sites may cause visual impacts in the area.	<b>Medium</b>	<p>1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Council.</p> <p>2. No wastes may remain on the construction site for more than two weeks.</p> <p>3. Supply sufficient garbage bins throughout</p>	<b>Low</b>

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			<p>the site and empty regularly.</p> <p>4. Ensure good housekeeping is implemented at all times.</p> <p>5. Keep the property neat and litter free at all times and maintain the landscaped areas.</p> <p>6. Indigenous vegetation should be used to create habitats that attract the natural fauna in the area as far as possible</p> <p>7. The Construction camp must be contained to prevent any visual intrusion and be kept in a clean and orderly state at all times.</p> <p>8. When vertical structures or surfaces are lit such as building facades or signs, direct the light downwards.</p> <p>9. Landscaping should be maintained.</p>	
<p><b>14. Impact on socio-economics:</b> Impact on nearby residential areas.</p>	<p>Influx of workers in the area may raise concerns from neighbouring residents</p>	<p><b>Medium - positive</b></p>	<p>1. All adjacent landowners must be informed of the construction processes prior to commencement of construction activities.</p> <p>2. Adjacent land owners must be informed timeously of any service stoppages in their areas.</p> <p>3. Notification must include possible timeframes for stoppages.</p> <p>4. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners.</p> <p>5. Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so alternatives can be provided.</p>	<p><b>Low - positive</b></p>
<p><b>14 .Impacts on traffic and local roads : Also refer to impact 1</b></p>	<p>1. Traffic will be congested as a result of construction activities.</p>	<p><b>Medium</b></p>	<p><b>Construction phase:</b></p> <p>1. Vehicular movement beyond the property boundaries may not occur during peak hour</p>	<p><b>Low</b></p>

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	<p>2. Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads.</p>		<p>traffic times (07h30 – 08h30 and 16h00 – 17h00).</p> <p>2. It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient and effective access control system.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated</p> <p><b>Operational phase:</b></p> <p>1. Roads should be adequately maintained.</p> <p>2. Adequate signage should be provided and adhered to.</p>	
<b>15. Health and Safety impacts</b>	<p>Impacts/injuries to animals or humans entering the site unnoticed</p>	<b>Medium</b>	<p>1. The construction site must be fenced off and demarcated using danger tape to ensure that no animals or residents enter the area.</p> <p>2. Safety clothes and equipment must be worn at all times.</p> <p>3. No fires are allowed at or around the construction site. The contractor must provide gas fired stoves and heaters to the workers</p>	<b>Low</b>
<b>16. Impact on socio-economics:</b> Economic and employment status will be impacted on due to access and road construction,	<p>Local residents are likely to get some of the unskilled labour employment opportunities</p>	<b>Medium +</b>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <p>1. The construction phase will provide direct temporary employment for locals, and</p>	<b>Low</b>

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building construction, paving construction and landscaping.			indirect employment through demand for construction materials, and support services, as well as empowerment and skills transfer opportunities. 2. During operation, there will be job opportunities and continued potential for skills transfer.	
<b>17.Impact on infrastructure services:</b>	The status of the infrastructure services may be impacted on through the establishment of the site and the construction of roads.	<b>Low</b>	<b>There are no mitigation measures as the impact is positive.</b>  1. The status of the infrastructure services in the surrounding area will be improved through the establishment of the site and the upgrade of roads in the area. 2. Insect the site for burst, blocked or leaking water pipe 3. During the operational phase, the sewage system must be inspected for leakages on regular basis and any leakages must be attended to immediately.	<b>Low</b>
<b>18.Impacts on unknown cultural and heritage resources</b>	A local graveyard/Jakobskop cemetery near Roshnee is situated in closer proximity to a section of this route	<b>Medium</b>	1. The construction team should be made aware of the sensitive nature of this cemetery during the Environmental Awareness training. 2. A buffer zone of about 3m should be kept around the outermost graves to ensure that damage is not done to the graves during construction. 3. An independent ECO should be present during construction (erection of powerline and	<b>Low</b>

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			<p>stringing of cables) at the Jakobskop cemetery to ensure that the graves are protected</p> <ol style="list-style-type: none"> <li>4. Should any archaeological material or human remains be accidentally unearthed during the course of construction</li> <li>5. No graves should be impacted in any way without a permit from SAHRA</li> <li>6. Construction personnel must be alert and inform local Council should they come across any features of heritage value and must cease construction activities immediately</li> <li>7. No heritage feature can be removed, destroyed and/or interfered with on site without the permission of an accredited archaeologist</li> <li>8. The Local Municipality in consultation with Eskom must provide a fence to protect any impacts on the graveyard during the construction phase</li> </ol>	
<p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>• The construction of the access road will result in the direct impact of minimal vegetation clearing when widening the roads.</li> <li>• Loss of topsoil due to earthworks and foundation establishment for the powerline.</li> <li>• Noise from construction vehicles and equipments and the labourers</li> </ul> <p><b>Cumulative impacts:</b>  <i>Visual Cumulative impacts will emanate from the powerline infrastructure itself as there are existing distribution powerlines already transecting the area</i></p>				

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<p><b>Operational phase impacts:</b> <i>Impacts during the operational phase are expected to occur during maintenance of the powerline. There are no significant impacts anticipated during the operational phase of the project. The following impacts are however anticipated:</i></p>				
Potential impacts:	Description of Impact	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
1. Noise and dust pollution	- Noise and dust may occur during maintenance of the powerline	<b>Medium to Low</b>	- Dust suppression and wet spraying should be implemented - Limit maintenance hours to daytime and weekday - Ensure that noise levels are in accordance with SANS 10103 for residential areas by implementing a monitoring programme	<b>Low</b>
2. Soil erosion	Storm water runoff may cause soil erosion from the tower foundations	<b>Medium</b>	- Regularly inspect all storm water channels - Provide soil conservation measures in areas of susceptible erosion near the tower foundations	<b>Low</b>
3. Disruption to local residents	Power cuts during maintenance may disrupt local people	<b>Medium</b>	- Inform residents if planned power cuts at least 15 -30 days before implementing	<b>Low</b>
<p><b>Decommissioning phase -</b> <i>The decommissioning phase would entail the dismantling of the powerlines, the construction of access roads for dismantling (if applicable) and the transportation of materials from the sites. It is anticipated that the structures will be dismantled and removed and a rehabilitation plan (removal of all hydrocarbons, tower structures and provision of recycling plans) approved by the relevant authorities will be implemented. However the closure and decommissioning require a separate EIA process and will be conducted as and when closure is required.</i></p>				
<p><b>Indirect impacts:</b></p>				



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- The construction of the access road will result in impact, though of a minimal nature - vegetation clearing when widening the roads.
- Loss of topsoil due to earthworks and foundation establishment of the powerlines.
- Noise from construction vehicles and equipments and the labourers

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***Indirect impacts:***

- None

***Cumulative impacts:***

- None

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**Alternative 2** ): - Please also refer to the draft EMPr, Specialist assessment reports for details on other applicable mitigation measures

Potential impacts:	Description	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
<b>1. Impacts on local roads</b>	Transporting powerline infrastructure and heavy machinery to site may lead to local road deterioration	<b>Medium</b>	<p><b>Construction phase:</b></p> <ol style="list-style-type: none"> <li>1. Access road to the proposed site would require regular monitoring and maintenance to prevent potential erosion problems</li> </ol> <p><b>Operational phase:</b></p> <ol style="list-style-type: none"> <li>1. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</li> <li>2. Litter blocking storm water systems must be removed.</li> <li>3. Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ol>	<b>Low</b>
<p><b>2. Environmental Nuisances (dust and noise)</b></p> <p>Groundwater contamination due to construction activities.</p>	Dust and noise from heavy machinery transporting powerline infrastructure may be of concern to local residents	<b>Medium</b>	<ol style="list-style-type: none"> <li>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</li> <li>2. A continuous dust monitoring process needs to be undertaken during construction.</li> <li>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</li> <li>4. Adequate signage should be provided and adhered to.</li> <li>5. Noisy vehicles and construction</li> </ol>	<b>Low</b>

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			<p>machinery must have silencers to reduce the noise levels in the area. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</p>	
<p><b>3.</b> Hydrocarbon leakages from construction machinery and heavy vehicles</p>	<p>Machinery and heavy vehicles have a potential to spill oils and chemicals on the ground</p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>1. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site.</li> <li>2. Vehicles and equipment should not be washed, serviced or re-fuelled on-site if possible, but taken to a relevant workshop or service station to prevent potential contamination of surface water and surrounding areas by these pollutants.</li> <li>3. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</li> <li>4. No materials may be discharged from the construction camps.</li> <li>5. 6. During the operation phase of the development, regular maintenance of the sewage pipelines is required to prevent sewerage leaks.</li> </ol>	<p><b>Low</b></p>
<p><b>6. Impacts on</b></p>	<p>Construction impacts</p>	<p><b>Low</b></p>	<p>Contractor with the assistance of the</p>	<p><b>Low</b></p>

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<p><b>flora</b></p>	<p>on flora are likely to be limited to the existing shrubs occupying the site and potentially to limited areas along the access roads leading to the site. There is no anticipated impact on Red or Orange Data species within the site during the construction phase.</p>		<p>environmental officer must identify and label trees that must not be removed during the construction of the access roads</p>	
<p><b>7. Impacts on fauna</b></p>	<p>There is no anticipated impact on Red or Orange Data species within and around the site</p>	<p><b>Low</b></p>	<p>No killing of fauna will be allowed on site</p>	<p><b>Low</b></p>
<p><b>8. Increased soil erosion:</b></p>	<p>Loss of fertile topsoil will occur due to the initial vegetation clearing (for access roads) only; and construction earthworks may cause increased soil erosion as well as stormwater runoff.</p>	<p><b>Medium</b></p>	<p>Construction phase:</p> <ol style="list-style-type: none"> <li>1. If at all possible, construction activities should preferably take place during the dry winter months.</li> <li>2. Stockpiles (if applicable) must be covered in excess during windy conditions.</li> <li>3. Clearance of vegetation for access road should be minimized and delayed to minimized exposed areas that might be prone to erosion during heavy rains</li> <li>4. Dust suppression is necessary for stockpiles older than a month.</li> <li>5. Stockpiles should not be higher than 2 m to avoid compaction and visual impacts.</li> <li>6. To prevent erosion of materials stockpiled for a long period of time, the material must be retained in a bermed area.</li> <li>7. The energy / velocity of storm water runoff should be dissipated using metre drains at appropriate intervals.</li> </ol>	<p><b>Low</b></p>

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			<p>8. Grading of the site is required after construction to ensure free flow of runoff and to prevent ponding of water</p> <p>9. The topsoil must be stockpiled separately and used for rehabilitating around the site. Should topsoil remain, the locals should be encouraged to take the soil and place it on their vegetable patches.</p> <p><b>Operational phase:</b></p> <ul style="list-style-type: none"> <li>• The storm water system especially discharge points must be inspected and damaged areas must be repaired if required.</li> <li>• Litter blocking storm water systems must be removed.</li> <li>• Plant cover must be maintained and unnecessary trafficking be avoided at all cost.</li> </ul>	
<b>9. Noise impacts</b>	Vehicles transporting materials to and from the site will potentially cause an additional noise burden to adjacent residents as well as along internal access roads.	<b>Medium</b>	<p>1. Construction activities to be limited to office hours on weekdays as far as possible.</p> <p>2. The contractor must ensure that noise levels remain within acceptable limits</p>	<b>Low</b>
<b>10. Impacts on ground water:</b> Groundwater contamination due to construction activities. <i>Also refer to impact 3</i>	Hydrocarbon leakages from plant vehicles and poor management of sources of hydrocarbon leakages has a potential to pollute underground water resources	<b>Medium</b>	<p>1. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants.</p> <p>2. All cement mixing must occur on impervious surfaces and within controlled bermed areas.</p> <p>3. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste</p>	<b>Low</b>

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			<p>disposal site.</p> <p>4. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction.</p> <p>5. No materials may be discharged from the construction camps.</p>	
<p><b>11. Impacts on stormwater:</b></p> <p>The accumulation of stormwater.</p>		<b>Medium</b>	<p>1. No stockpiles or construction materials may be stored or placed within any drainage line that may be in close proximity of storm water drains.</p> <p>2. No stockpiles or construction materials may be stored or placed in close proximity to storm water drains.</p> <p>3. The storm water system especially discharge points must be inspected and damaged areas must be repaired if required</p>	<b>Low</b>
<p><b>12. Impact on dust and air quality:</b></p> <p>The influx of pollutants will occur due to the establishment of the construction camp and the movement of people and vehicles on site. Excavated and stockpiled material that is vulnerable to wind has the potential to contribute to the influx of pollutants in the air.</p>	<p>Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads</p>	<b>Medium to Low</b>	<p>1. Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</p> <p>2. A continuous dust monitoring process needs to be undertaken during construction.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. All vehicles transporting friable materials such as sand, rubble etc must be covered by a tarpaulin or wet down.</p> <p>5. Construction work to be undertaken during weekdays as far as practical.</p>	<b>Low</b>
<p><b>13. Impact on visual and aesthetic quality:</b></p>	<p>Stockpiled materials; workforce; and construction sites may cause visual impacts in the area.</p>	<b>Medium</b>	<p>1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction</p>	<b>Low</b>

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			<p>period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Council.</p> <ol style="list-style-type: none"> <li>2. No wastes may remain on the construction site for more than two weeks.</li> <li>3. Supply sufficient garbage bins throughout the site and empty regularly.</li> <li>4. Ensure good housekeeping is implemented at all times.</li> <li>5. Keep the property neat and litter free at all times and maintain the landscaped areas.</li> <li>6. Indigenous vegetation should be used to create habitats that attract the natural fauna in the area as far as possible</li> <li>7. The Construction camp must be contained to prevent any visual intrusion and be kept in a clean and orderly state at all times.</li> <li>8. When vertical structures or surfaces are lit such as building facades or signs, direct the light downwards.</li> <li>9. Landscaping should be maintained.</li> </ol>	
<p><b>12.Impact on socio-economics:</b> Impact on nearby residential areas.</p>	<p>Influx of workers in the area may raise concerns from neighbouring residents</p>	<p><b>Medium - positive</b></p>	<ol style="list-style-type: none"> <li>1. All adjacent landowners must be informed of the construction processes prior to commencement of construction activities.</li> <li>2. Adjacent land owners must be informed timeously of any service stoppages in their areas.</li> <li>3. Notification must include possible timeframes for stoppages.</li> <li>4. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners.</li> <li>5. Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so</li> </ol>	<p><b>Low - positive</b></p>

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			alternatives can be provided.	
<b>13 .Impacts on traffic and local roads : Also refer to impact 1</b>	<p>1. Traffic will be congested as a result of construction activities.</p> <p>2. Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads.</p>	<b>Medium</b>	<p><b>Construction phase:</b></p> <p>1. Vehicular movement beyond the property boundaries may not occur during peak hour traffic times (07h30 – 08h30 and 16h00 – 17h00).</p> <p>2. It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient and effective access control system.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated</p> <p><b>Operational phase:</b></p> <p>1. Roads should be adequately maintained.</p> <p>2. Adequate signage should be provided and adhered to.</p>	<b>Low</b>
<b>14. Health and Safety impacts</b>	Impacts/injuries to animals or humans entering the site unnoticed	<b>Medium</b>	<p>1. The construction site must be fenced off and demarcated using danger tape to ensure that no animals or residents enter the area.</p> <p>2. Safety clothes and equipment must be worn at all times.</p> <p>3. No fires are allowed at or around the construction site. The contractor must provide gas fired stoves and heaters to the workers</p>	<b>Low</b>
<b>15.Impact on socio-</b>	Local residents are	<b>Medium +</b>	<b>There are no mitigation measures as the</b>	<b>Low</b>



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<p><b>economics:</b> Economic and employment status will be impacted on due to access and road construction, building construction, paving construction and landscaping.</p>	<p>likely to get some of the unskilled labour employment opportunities</p>		<p><b>impact is positive.</b></p> <ol style="list-style-type: none"> <li>1. The construction phase will provide direct temporary employment for locals, and indirect employment through demand for construction materials, and support services, as well as empowerment and skills transfer opportunities.</li> <li>2. During operation, there will be job opportunities and continued potential for skills transfer.</li> </ol>	
<p><b>16.Impact on infrastructure services:</b></p>	<p>The status of the infrastructure services may be impacted on through the establishment of the site and the construction of roads.</p>	<p><b>Low</b></p>	<p><b>There are no mitigation measures as the impact is positive.</b></p> <ol style="list-style-type: none"> <li>1. The status of the infrastructure services in the surrounding area will be improved through the establishment of the site and the upgrade of roads in the area.</li> <li>2. Insect the site for burst, blocked or leaking water pipe</li> <li>3. During the operational phase, the sewage system must be inspected for leakages on regular basis and any leakages must be attended to immediately.</li> </ol>	<p><b>Low</b></p>
<p><b>17.Impacts on cultural and heritage resources</b></p>	<p>Two local graveyard/cemetery exist in close proximity to the route</p>	<p><b>Medium</b></p>	<ol style="list-style-type: none"> <li>2. As the cemetery is already fenced, the existing boundary should be used as a buffer and graves should be treated area as no-go area.</li> <li>3. The construction team should be made aware of the sensitive nature of heritage resources during the Environmental Awareness training.</li> <li>4. Should any archaeological material or human remains be accidentally</li> </ol>	<p><b>Low</b></p>

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			<p>unearthed during the course of construction</p> <ol style="list-style-type: none"> <li>5. Construction personnel must be alert and inform local Council should they come across any features of heritage value and must cease construction activities immediately</li> <li>6. No heritage feature can be removed, destroyed and/or interfered with on site without the permission of an accredited archaeologist</li> <li>7. The Local Municipality in consultation with Eskom must provide a fence to protect any impacts on the graveyard during the construction phase</li> </ol>
<p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>• The construction of the access road will result in the direct impact of minimal vegetation clearing when widening the roads.</li> <li>• Loss of topsoil due to earthworks and foundation establishment for the tower foundations.</li> <li>• Noise from construction vehicles and equipments and the labourers</li> </ul> <p><b>Cumulative impacts:</b>  <i>Visual Cumulative impacts will emanate from the powerline itself as there are existing distribution powerlines already transecting the area</i></p>			
<p><b>Operational phase impacts:</b> <i>Impacts during the operational phase are expected to occur during maintenance of the powerline. There are no significant impacts anticipated during the operational phase of the project. The following impacts are however anticipated:</i></p>			

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Potential impacts:	Description of Impact	Significance rating of impacts:	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
1.Noise and dust pollution	- Noise and dust may occur during maintenance of the powerline	<b>Medium to Low</b>	- Dust suppression and wet spraying should be implemented - Limit maintenance hours to daytime and weekday - Ensure that noise levels are in accordance with SANS 10103 for residential areas by implementing a monitoring programme	<b>Low</b>
2.Soil erosion	Storm water runoff may cause soil erosion near the tower foundations	<b>Medium</b>	- Regularly inspect all storm water channels - Provide soil conservation measures in areas of susceptible erosion around the tower foundations	<b>Low</b>
3.Disruption to local residents	Power cuts during maintenance may disrupt local people	<b>Medium</b>	- Inform residents if planned power cuts at least 15 -30 days before implementing	<b>Low</b>
<p><b>Decommissioning phase</b> - <i>The decommissioning phase would entail the dismantling of the powerlines, the construction of access roads for dismantling (if applicable) and the transportation of materials from the sites. It is anticipated that the structures will be dismantled and removed and a rehabilitation plan (removal of all hydrocarbons, tower structures and provision of recycling plans) approved by the relevant authorities will be implemented. However the closure and decommissioning require a separate EIA process and will be conducted as and when closure is required.</i></p> <p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>• The construction of the access road will result in impact, though of a minimal nature - vegetation clearing when widening the roads.</li> <li>• Loss of topsoil due to earthworks and foundation establishment for the tower foundations.</li> <li>• Noise from construction vehicles and equipments and the labourers</li> </ul>				
<hr/> <p><b>Indirect impacts:</b></p>				

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- None

**Cumulative impacts:**

- None

### 3. Impact Assessment

In terms of Section 22(2 i (i - vii-) of NEMA 2010, the basic assessment is required to provide an a description and assessment of the significance of any environmental impacts, including—

(i)cumulative impacts, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the activity; (ii)the nature of the impact; (iii)the extent and duration of the impact; (iv) the probability of the impact occurring; (v)the degree to which the impact can be reversed; (vi)the degree to which the impact may cause irreplaceable loss of resources; and (vii) the degree to which the impact can be mitigated. *The impacts for the construction, operation and decommissioning phases for the **preferred alternative** are further summarised and assessed as follows:*

Impact on	Criteria				Description	Reversibility	Irreplaceable loss of Resources
	Extent	Duration	Intensity	Probability			
Flora	Local	Short tem	Medium	Improbable	The minimal clearance of vegetation for widening of access roads may cause habitat destruction, disturbances and alteration of the existing area. The loss of vegetation in the boundaries may lead to invasion by alien plants	Permanent	Low
Fauna	Local	Short term	Medium	Improbable	The clearance of vegetation may cause habitat destruction, disturbances and alteration of the existing area	Short term	Low
Wetland	Local	Short term	Medium	Probable	Proposed route and Alternative 1 may have significant impacts on the wetland as these routes transect wetland areas	Permanent	Medium

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Impact on	Criteria				Description	Reversibility	Irreplaceable loss of
	Local	Short term	Medium	Probable			
Soil erosion	Local	Short term	Medium	Probable	Construction activities e.g. excavation, vegetation clearing may encourage soil erosion	Short term	Low
Noise	Local	Short term	Medium	Highly Probable	Construction noise can be a nuisance during the construction phase.	Short term	Low
Groundwater	Local	Short term	Medium	Probable	Use of hazardous substances has a potential to contaminate soil and water resources during the construction phase.	Short term	Low
Stormwater	Local	Short term	Medium	Probable	Stormwater Drainage may be impacted if construction activities are not properly managed	Short term	Low
Air Quality	Local	Short term	Medium	Probable	There may be impacts on the health and safety on construction workers and the surrounding community. Dust is likely to increase during the construction phase.	Short term	Low
Visual	Local	Long term	Permanent	Definite	The proposed powerline s will add to the existing visual impacts of the proposed development as there are already distribution powerlines in the area.	Permanent	Low
Socio economic	Regional	Long term	High	Definite	The provision of an adequate power supply to meet the needs of a growing area in the Midvaal area	Permanent	Low
Local roads	Local	Short term	Medium	Highly probable	Construction traffic may impact on access roads located in close proximity to the study site	Medium term	Low
Infrastructure	Local	Short term	Medium	Probable	Unknown/unidentified underground service .i.e, water, sewer and electricity may be impacted during construction of the powerline	Short term	Low
Heritage	Local	Short term	Medium	Probable	The local grave yard in the vicinity of the site and features of heritage value beneath the soil surface may be impacted	Short term	Low

Please note the significance of the impacts with or without mitigation is already presented in **Section D 2** above.

*The impacts for the construction, operation and decommissioning phases for the **Alternatives 1 and 2** are further summarised and assessed as follows:*

Impact on	Criteria				Description	Reversibility	Irreplaceable loss of Resources
	Extent	Duration	Intensity	Probability			
Roads and Traffic	Local	Short tem	Medium	Probable	Transporting of powerline infrastructure and heavy machinery to site may lead to local road deterioration	Short tem	Low
Environmental Quality (noise and dust)	Local	Short term	Medium	Probable	Noise and dust from construction machinery can be a nuisance during the construction phase.	Short term	Low
Soil and Groundwater	Local	Short term	Medium	Probable	Machinery and heavy vehicles have a potential to spill oils and chemicals on the ground	Short term	Low
Flora	Local	Short tem	Medium	Improbable	The minimal clearance of vegetation for widening of access roads may cause habitat destruction, disturbances and alteration of the existing area. The loss of vegetation in the boundaries may lead to invasion by alien plants	Permanent	Low – Negative

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Impact on	Criteria				Description	Reversibility	Irreplaceable loss of
	Local	Short term	Medium	Improbable			
Fauna	Local	Short term	Medium	Improbable	The clearance of vegetation may cause habitat destruction, disturbances and alteration of the existing area	Short term	Low
Soil erosion	Local	Short term	Medium	Probable	Construction activities e.g. excavation, vegetation clearing may encourage soil erosion	Short term	Low
Noise	Local	Short term	Medium	Highly Probable	Construction noise can be a nuisance during the construction phase.	Short term	Low
Groundwater	Local	Short term	Medium	Probable	Use of hazardous substances has a potential to contaminate soil and water resources during the construction phase.	Short term	Low
Stormwater	Local	Short term	Medium	Probable	Stormwater Drainage may be impacted if construction activities are not properly managed	Short term	Low
Air Quality	Local	Short term	Medium	Probable	There may be impacts on the health and safety on construction workers and the surrounding community. Dust is likely to increase during the construction phase.	Short term	Low
Visual	Local	Long term	Permanent	Definite	The proposed powerline will add to the existing visual impacts of the proposed development as there are already distribution powerlines in the area.	Permanent	Low
Socio economic	Regional	Long term	High	Definite	The provision of an adequate power supply to meet the needs of a growing area in the Midvaal area	Permanent	Low
Local roads	Local	Short term	Medium	Highly probable	Construction traffic may impact on access roads located in close proximity to the study site	Medium term	Low
Infrastructure	Local	Short term	Medium	Probable	Unknown/unidentified underground service .i.e, water, sewer and electricity may be impacted during construction of the powerline	Short term	Low
Heritage	Local	Short term	Medium	Probable	The local grave yard in the vicinity of the site and features of heritage value beneath the soil surface may be impacted	Short term	Low

#### 4. Assumptions, Uncertainties and Gaps in Knowledge

In terms of Section 22 m of NEMA 2010, the basic assessment is required to provide a *description of any assumptions, uncertainties and gaps in knowledge*. The identified assumptions, uncertainties and gaps in knowledge for the proposed project are presented as follows:

- *All information provided by Eskom and I&APs to the Environmental Team was correct and valid at the time it was provided.*
- *It is assumed that the current policy and legislation referred to in this BAR will be relevant until the time that the powerline is constructed.*
- *The specialist studies (heritage, biodiversity, geotechnical, agricultural potential) undertaken are based on a strategic investigation of the powerline site. It is to be noted that an EMPr has been compiled, Eskom's minimum standards for vegetation management and erosion control and the specialist studies has provided specific mitigation measures for those resources that may be affected by the proposed development.*
- *Every effort was made by the Public Participation Officer to contact stakeholders and landowners through organizations with which they may be registered. The assumption has been made that the issues and concerns raised by these organisations are representative of a fair understanding of the study area. The assumption has also been made that information presented by all I&APs has been accurate and has been presented timeously in the study.*
- *Based on the statement above, it should however be understood that the proposed powerline is anticipated to be constructed in 2014. There is therefore no accurate way of knowing how the attitudes, opinions and actions of the I&APs involved will change between the date of the report and the date of the construction of the powerline. There is also no way of knowing whether the people powerline construction.*
- *It is also assumed that all possible and all relevant I&APs have been identified. It is possible that there may be some gaps in knowledge related to some other parties potentially affected and the difficulty of identifying every detail pertinent to every one of them.*

### 3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

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#### Alternative 1 (preferred alternative)

*The combination of proposed route (4 lines) and Alternatives 1 and 2 is the preferred from the environmental perspective as the majority of the alignment occurs within transformed grasslands such as agricultural lands, degraded grasslands and road reserves. Comparatively, these alignment crosses the shortest stretch of wetland, and will have the fewest number of towers located within the wetland and will have the least impacts (birds, habitat destruction etc.) on the environment. However, from the geotechnical point of view, alternatives 1 and 2 pose geotechnical problems associated with dolomite and andesite conditions in the area. It is recommendation from the geotechnical engineer that more*

*detailed investigative work entailing site exploration including a dolomite stability assessment and soil sampling and testing will be required to confirm these conditions prior construction.*

*The proposed project will have moderate to low impacts on the bio-physical environment, all of which can be fully mitigation and managed, and where possible prevented. There will be impacts on soil, dust and noise generated by the earth moving equipment, waste generated by the influx of contractor's and establishment of the contractor's camps. There will be minimal clearing of vegetation along the access road to the site, but only confined to the road reserve area.*

**No-go alternative (compulsory)**

*The No-go option implies that the Project does not proceed, and will thus comprise of Eskom not going ahead with the construction of the 88 kV power lines. Ideally this would be the preferred alternative as the status quo of the environment remains unchanged, however due to the growing demand for energy in the area however this alternative is not feasible. Should Eskom rely on the existing network to supply future demand it is highly likely that present supply will be compromised due to the increased load on the network.*

- **Direct impacts**

- *Emfuleni Municipality will not be able to supply sufficient electricity to customers and new developments.*
- *Limited development and employment opportunities will be created (i.e. no construction phase).*

- **Indirect Impacts**

- *Local suppliers and contractors will not benefit from the business opportunities relating to construction*
- *No new business and industrial ventures due to lack of electricity*
- *Power outages and uncertain power supply may be experienced in the study area*
- *No increase in the economic activity in the area and as a result socio economics will be depressed.*

**SECTION E. RECOMMENDATION OF PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

<b>YES</b>	
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

*This BAR has provided a comprehensive assessment of the potential environmental impacts associated with the proposed Kookfontein powerline. These impacts have been identified by the EIA team (including specialists) and I&APs. The key findings of the BA are discussed in this Report. In general, the proposed development will have an impact of low significance provided that there is effective application of the mitigation measures proposed in this BAR and the EMPr. The majority of*



*these impacts are easily mitigated and can be reduced to lower significance through appropriate design and mitigation measures. No unacceptably impacts of unacceptably high significance are foreseen once proper mitigation measures have been implemented. The findings of the specialists that were involved are briefly presented as follows:*

- The Ecological specialist (vegetation, fauna and flora) concluded that both construction and operation of the proposed powerline are likely to have significant negative impacts on the ecological receiving environment (wetlands and associated vegetation and faunal species) in particular for the proposed and preferred route (yellow). These specialists have queried the red Proposed Route (Ironsides to Jaguar) as this route has no alternative alignment options and consist of a number of bends. It is to be noted that section of this route cannot explore any alignments as the open area to the west of the route has been targeted for a housing development.
- It must be noted that Alternative 1 route alignment in the initial stages of the Basic Assessment was noted to be traversing a graveyard directly west of the R82 road and west of the residential area of Roshnee and Dadaville. Eskom has subsequently slightly re align the route to the east of the R82 to only cross over the R82 road after the graveyard (See **Appendix A**). A private landowner and Gautrans objected to the realignment due to future land uses. Eskom has now realigned the powerline to transect the north western portion of the Jakobskop cemetery which is currently vacant (no graves). The heritage specialist following this alignment visited the site and reviewed the alignment and recommended that the proposed development can continue with the application of mitigation measures especially in areas located in close proximity to the cultural and heritage features (graves), see Heritage report attached as **Appendix D3** of this report. However, if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.
- Geotechnically, dolomitic conditions instability conditions associated with this rock type is expected; however some areas where towers are to be located may require some engineering to improve the stability conditions of the infrastructure.
- From a visual point of view, a combination of alternative 1 and 2 is preferred and proposed route least preferred

***Accordingly and based on the specialist assessment and various environmental conditions, the combination of the proposed route (4 lines) and Alternative 1 and Alternative 2) have emerged as the preferred options from an environmental perspective. It is therefore a recommendation of this Basic Assessment that these alternatives be authorized should the project be granted a positive authorisation.***

*The preferred and the recommended alternative option in this BAR are based on the minimal impacts of the proposed project on the bio-physical environment to be affected by the project. It is therefore recommended that the environmental authorities authorise the development subject to the following conditions:*

- The applicant undertake more detailed geotechnical investigative work entailing site exploration including a dolomite stability assessment and soil sampling and testing;
- The applicant must apply for a Water use Licence from the Department of Water Affairs in areas where water resources are impacted (streams and wetland crossing) before commencement of construction in those areas;

## BASIC ASSESSMENT REPORT

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- An independent ECO should be present during construction (erection of powerline and stringing of cables) at the Jakobskop cemetery to ensure that the graves are protected and not damaged at all.
- Compliance with the mitigation measures outlined in this BA report and EMPr;
- Continued consultation and engagement with all relevant stakeholders – especially local communities and respective municipalities during labour recruitment and procurement for services and supplies during construction phase;
- Monthly monitoring and evaluation of the construction sites for environmental compliance;
- Eskom shall ensure that adequate protection measures are taken to minimize the potential risk of theft during the construction and operational phase.
- Implementation of the environmental awareness plan to the contractor's during the construction of the powerlines;
- Compliance with all legal requirements in relation to environmental management and conditions of the authorisation issued by DEA.

Is an EMPr attached?

YES

The EMPr must be attached as **Appendix F**.

**SECTION F: APPENDIXES**

The following appendixes must be attached as appropriate:

**Appendix A:** Locality maps and Proposed route alignment

**Appendix B:** Photographs

**Appendix C:** Examples of proposed powerline infrastructures that may be used for the project

**Appendix D:** Specialist reports

- D1: Geotechnical Assessment
- D2: Vegetation Assessment
- D3: Heritage Impact Assessment
- D4: Faunal Assessment
- D5: Wetland Assessment
- D6: Visual Assessment

**Appendix E:** Comments and responses report

- E1: Newspaper Advertisement
- E2: Site Notices
- E3: Correspondences to and from I&APs (Notification letters)
- E4: Interested and Affected Parties Database
- E5: Comments and Response Report
- E6: Proof of deliveries

**Appendix F:** Environmental Management Programme (EMPr)

**Appendix G:** Other information

- G1: Correspondence with Authorities (including Application forms)
- G2: Impact Assessment Methodology