



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, 2014, 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, 2014 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. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. 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.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. 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.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. 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.

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14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

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

YES	NO
✓	

If YES, please complete the form entitled “Details of specialist and declaration of interest” for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Eskom Holdings SOC (Ltd) proposes to develop approximately 5,5km 88kV powerline from the existing Tweedracht substation to the existing SAR Kameel–SAR Kleinfontein power line which aims to improve the inadequate operational flexibility (back feeding) of the existing network.

The proposed project entails the development of the following:

- ± 5,5km 88kV Panther line from Tweedracht substation to SAR Kleinfontein line as a “Tee” in the existing SAR Kameel; and
- Installation of 2x 132kV isolators on 5,5m 4-pole supports to be installed on the SAR Kameel-SAR Kleinfontein 88KV line on either side.

The proposed development will be located on the Farms Kleinzonderhout 519JR, Tweedracht 516JR, Kameel Zyn Kraal 519JR and 547JR; about 20km southwest of Bronkhorstspruit within the jurisdiction of the City of Tshwane Metropolitan Municipality in Gauteng Province, South Africa.

The aforementioned activity triggers listed activities under Government Notice R983 (Listing Notice 1) Activity 11(i), therefore an Environmental Authorisation must be obtained in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations of December 2014.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 734, 735 and 736	Description of project activity
<p>Example: GN 734 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river.</p>
<p>GN R.983 Activity 11(i): The development of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of more</p>	<p>The proposed development of approximately 5km 88kv power line from Eskom Tweedracht substation to the existing SAR Kameel–SAR Kleinfontein power line.</p>

than 33 but less than 275 kilovolts.	
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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 as required by Appendix 1 (3) (h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The proposed development will be located on various portions of the Farms Kleinzonderhout 519JR, Tweedracht 516JR, Kameel Zyn Kraal 519JR and 547JR; about 20km southwest of Bronkhorstspruit within the jurisdiction of the City of Tshwane Metropolitan Municipality in Gauteng Province, South Africa.	Start 25° 53' 25.99" S	28° 31' 11.33" E
	Middle 25°53' 48.85" S	28° 32' 20.96" E
Alternative 1 ties into the existing 88kV powerline and spans a distance of approximately 1.3km southwest along the R25, it then turns in the northwest direction across the farm for approximately 3.4km into the Tweedracht substation. It traverses the R515 and railway.	End 25° 53' 33.69" S	28° 33' 24.02" E

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This alternative will traverse agricultural holdings, cultivated land, a watercourse and it is the closest to the identified burial ground and an old building.

The line is the shortest route at just below 5km as depicted (in purple) in Figure 1 below and it follows route A-B-E.

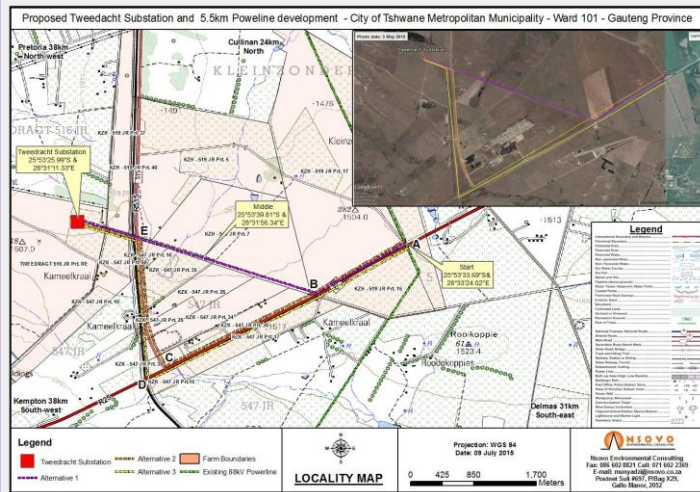


Figure 1: Locality Map depicting the alternatives

Alternative 2

Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2 ties into the existing 88kV powerline and spans a distance of approximately 3.4km southwest along the R25, it then bends in a northern direction parallel the R515 for approximately 2km and then turns into the Tweedracht substation. It also traverses the R515 and a railway line.	Start 25° 53' 25.99"S	28° 31' 11.33" E
	Middle 25° 54' 20.88"S	28° 31' 55.62" E
This alternative spans on the edge of the agricultural properties except for the 850m that it spans within, an agricultural holding (Hay farm). It crosses a non-perennial stream southward and it is the closest to the identified borrow pit.	End 25° 53'.33.69" S	28° 33' 24. 02" E
The line is approximately 6km in length and is depicted in orange in Figure 1 above and it follows route A-C-E.		

Alternative 3

Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3 ties into the existing 88kV powerline and spans a distance of approximately 3.8km southwest along the R25; it turns in a northern direction parallel the Transnet Railway line for approximately 2km and turns into the Tweedracht substation. It also traverses the R515 and railway.	Start 25° 53' 25.99" S	28° 31' 11.33" E
	Middle 25° 54' 25.65" S	28° 31' 50.87" E
This alternative spans on the edge of the agricultural properties except for the 800m that it spans within, an agricultural holding	End	28° 33' 24. 02" E

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(Hay farm) it crosses a non-perennial stream southward. The line is approximately 6.2km in length and is depicted in yellow in Figure 1 above and it follows route A-D-E.	25°53' 33.69" S	
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In the case of linear activities:

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred)		
• Starting point of the activity	25° 53' 25.99"S	28° 31' 11.33"E
• Middle/Additional point of the activity	25° 53' 48.85"S	28° 32' 20.96"E
• End point of the activity	25° 53'.33.69"S	28° 33' 24. 02"E
Alternative S2 (if any)		
• Starting point of the activity	25° 53' 25.99"S	28° 31' 11.33"E
• Middle/Additional point of the activity	25° 54' 20.88"S	28° 31' 55.62"E
• End point of the activity	25° 53' 33.69"S	28° 33' 24. 02"E
Alternative S3 (if any)		
• Starting point of the activity	25° 53' 25.99"S	28° 31' 11.33"E
• Middle/Additional point of the activity	25° 54' 25.65"S	28° 31' 50.87"E
• End point of the activity	25° 53' 33.69"S	28° 33' 24. 02"E

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.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

	Alternative 1 (preferred alternative)	
Description	Lat (DDMMSS)	Long (DDMMSS)
	Alternative 2	
Description	Lat (DDMMSS)	Long (DDMMSS)
	Alternative 3	
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
Overhead
The proposed power line will be constructed overhead. Further, it will consist of steel monopole structures that require a 31m servitude and 14m clearance between the towers. It must be noted that within the vicinity of the proposed project site there are existing overhead power lines therefore; Alternative 1 will be in line with other existing power lines in the area.

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Alternative 2
<p>Underground Cable</p> <p>Instead of constructing the proposed line above ground, underground construction can be an alternative. The advantages of this alternative would include minimisation of the impact on land use, reduced impact on bird interaction and a reduced visual impact.</p> <p>Unlike aboveground cables, underground cables need to be insulated against the surrounding soil. On low voltage reticulation networks (11kV & 22kV) the heat generated by the cable is low enough for standard insulation to be used.</p> <p>Control of electrical losses and heat control are critical for underground cables. As a result, cables are as much as 4 times the diameter and 10 times the weight of equivalent overhead lines. Heat control is also a factor in the laying of the cables. The three phases of low and medium voltage cables (up to 132kV) can be placed in the same trench, while the phases for high voltage cables must be spaced apart, typically in a flat formation.</p> <p>Faulting on underground cable is rare. Bush fires, lightning strikes and bird related faults make up 80% of faults on overhead transmission lines in South Africa. These are not risks associated with underground cables. When such faults occur on overhead lines they are usually re-energised by automatically reclosing the circuit-breaker within a few seconds of the fault. More serious faults, such as a damaged line may be easily found and repaired within a few days at most. On underground cables the faults are almost exclusively a permanent fault, requiring inspection and correction on site. This usually requires excavating a section of the line. However, location of faults is not easy unless there is clear evidence of excavation damage. Therefore, the search and repair of underground cables can take several weeks. This may severely compromise the network design standard.</p> <p>Economically costs vary and are dependent on terrain, land use and size of line. However, underground cabling is in orders of magnitude greater than overhead cables.</p>
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

<p>In accordance with the requirement of the Regulations, consideration must be given to the option not to develop. This option is usually considered when the proposed development is envisaged to have such significant negative environmental impacts that mitigation measures cannot ameliorate the identified impacts effectively.</p> <p>The no-go alternative would be the option of not undertaking the proposed development of the 88kV powerline. The proposed project is a deviation of an already approved servitude, therefore, the no go</p>
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option will imply that the line proceed with disregard of other developments in the area. Further the no-go option alternative would be the option of not undertaking the construction of the proposed 88kV powerline as planned. This option is not preferred by Eskom for the following reasons:

- It implies no improvement in reliability of electricity systems which would benefit electricity users within the Municipality, the region and country at large.
- Should it be adopted the Municipality and community will be deprived of a much needed essential service/facility, particularly given the already existing problem with energy supply in the country.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

- Alternative A1¹ (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Size of the activity:

Alternative A1	m ²
Alternative A2	m ²
Alternative A3	m ²

or, for linear activities:

Alternative:

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Length of the activity:

Alternative A1	4900 m
Alternative A2	6000 m
Alternative A3	6200 m

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

Alternative:

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Size of the site/servitude:

Alternative A1	107800m ²
Alternative A2	132000m ²
Alternative A3	136400m ²

4. SITE ACCESS

Does ready access to the site exist?

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

m

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

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Describe the type of access road planned:

No access roads planned as there are existing access roads for all alternatives as access already exists.

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.

5. 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 accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- 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).

Locality Map is attached as Appendix A.

6. LAYOUT/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:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

Layout Map is attached as Appendix A.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Sensitivity Map is attached as Appendix A.

8. 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 report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Eight - directional colour photographs are attached as Appendix B.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 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.

Facility Illustration is attached as Appendix C.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES ✓	NO	Please explain
The proposed project entails the development of the 5,5km 88kV Panther line from Tweedracht substation to SAR Kleinfontein line, adjacent to the existing Transnet railway line and Eskom power line. Therefore it can be deduced that the proposed activity is well within the existing land use rights.			

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2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES ✓	NO	Please explain
The proposed project is part of the programme to improve and strengthen the current supply and also to cater for future developments.			
(b) Urban edge / Edge of Built environment for the area	YES ✓	NO	Please explain
The proposed project is outside the urban edge.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES ✓	NO	Please explain
The approval of this application would promote the aims and objectives of the Municipality's IDP and SDF by promoting development, upgrading engineering and social infrastructure in the area. The proposed activity is in line with the Municipality's mandate to ensure reliable power supply within their area of jurisdiction.			
(d) Approved Structure Plan of the Municipality	YES	NO ✓	Please explain
It is not within the Municipality's mandate to approve Eskom's structure plan; however, the Municipality has been identified as a primary stakeholders eligible to comment.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES ✓	NO	Please explain
The proposed project will have various environmental impacts of varying significance as outlined in Appendix F that to an extent may compromise the integrity of the EMF if not well managed. However, the long term developmental and sustainability goals coupled with increased economic activity and overarching benefits to both the region and the country in terms of power supply, justifies the project.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO ✓	Please explain
None identified.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES ✓	NO	Please explain
The proposed project is an energy supply related project which is priority for the Municipality and the country at large. Further, the proposed project is a Strategic Infrastructure Project (SIP) and is well aligned with the CoT IDP.			

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<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	YES ✓	NO	Please explain
The community needs the activity to be able to increase the electricity capacity of the area and improve the inadequate operational flexibility on the existing network, further enhancing the country's economy. The industrial community around the area is expanding therefore it can be concluded that the project is of both local and national importance.			
<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES ✓	NO	Please explain
The necessary services with adequate capacity are currently available for the proposed project.			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implications be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES ✓	NO	Please explain
The proposed Tweedracht powerline is an approved project which is well within the Municipality's plans, therefore the proposed project is to make way for other approved developments within the Municipality. The objective of this project is to strengthen the arm of electricity within the Municipality and will also allow for load growth and improve reliability of supply. Therefore, the project is provided for in the infrastructure planning of the Municipality.			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES ✓	NO	Please explain
This project addresses a localised problem. However at national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME, 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	YES ✓	NO	Please explain
The proposed 88kV is a servitude link between the existing substation and the existing SAR Kameel 88kV line, therefore the proposed location perfectly favours the proposed land use as it follows suite to other electrical activities in the area.			

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9. Is the development the best practicable environmental option for this land/site?	YES ✓	NO	Please explain
The proposed project is approved for the site based on environmental and technical studies undertaken as well as input from consultations with the Municipality; therefore the development is the best practicable environmental option for the site.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES ✓	NO	Please explain
The proposed project will benefit the Municipality, the district and the country at large. The identified impacts will be managed according to the recommendations from the specialists as well as the EMPr approved by the Department of Environmental Affairs. Moreover, the proposed development will ensure a more positive economic outlook. Therefore, the benefits of the proposed project will outweigh the negative impacts. The negative impacts have been identified and mitigation measures proposed.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO ✓	Please explain
The proposed project will tie into an existing 88kV powerline; therefore, the proposed development will not set a precedent but will complement activities in the area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO ✓	Please explain
The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the State has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The undertaking of the Basic Assessment is in line with the State's obligation as outlined in the Constitution in its effort to ensure sustainability. The consultation through the Public Participation will ensure that the Interested and Affected Parties' comments and issues are adequately addressed to ensure that the proposed project does not negatively affect any person's rights.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO ✓	Please explain
The proposed project is outside the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES ✓	NO	Please explain
The proposed project is SIP 10 which entails: Expansion, transmission and the distribution network to address historical imbalances, provide access to electricity for all and support economic development. Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.			

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15. What will the benefits be to society in general and to the local communities?	Please explain
At the local level, the power line aims to improve the inadequate operational flexibility (back feeding) of the existing network. At the national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME, 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
None identified.	
17. How does the project fit into the National Development Plan for 2030?	Please explain
The proposed project forms part of SIP 10 which aims at transmitting and distributing electricity for all and support economic development; as well as SIP 6 which is integrated municipal infrastructure aiming at maintenance of backlogs and upgrading electricity infrastructure – all a part of the National Development Plan 2030.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
The general objectives of IEM have been taken into account by means of identifying, evaluating, and predicting the actual and potential impacts on the natural, cultural and social environment. The risks, consequences and mitigation measures have been considered to minimise the negative impacts, enhance the positive impacts and promote compliance with environmental management principles.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
The principles of NEMA have been considered in this assessment through compliance with the requirements of the applicable legislation. This Basic Assessment Report (BAR) ensures that the impacts of the proposed activity on the environment are thoroughly and comprehensively assessed to ensure sustainability. Further, successful implementation of the EMPr will aid in minimising pollution and environmental degradation.	
The undertaking of the Basic Assessment process has been transparent in approach and as such involves Interested and Affected Parties (I&AP), landowners, organs of State and other key stakeholders, which will ensure that well informed decision is undertaken by the Authority.	

11. 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	Applicability to the project	Administering authority	Date
Republic of South Africa – Constitution, Act 108 of 1996	The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of	National Government	1996

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	<p>Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that:</p> <p>“Everyone has the right -</p> <p>a) To an environment that is not harmful to their health or well-being; and</p> <p>b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -</p> <ul style="list-style-type: none"> • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.” <p>The undertaking of the BA process is in line with the state’s obligations as outlined in the constitution in its effort to ensure sustainability.</p>		
<p>National Environmental Management Act, Act 107 of 1998 (as amended in 2009)</p>	<p>The overarching principles of sound environmental responsibility are reflected in the National Environmental Management Act (NEMA). The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter referred to as NEMA, applies to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.</p>	<p>National & Provincial Government</p>	<p>1998</p>
<p>National Environmental Management: Biodiversity Act, Act 10 of 2004</p>	<p>The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa’s biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed.</p> <p>The route is mainly located within a</p>	<p>National & Provincial Government</p>	<p>2004</p>

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	threatened ecosystem dominated by the Rand Highveld Grassland with a vulnerable status.		
National Environmental Management: Air Quality Act, Act 39 of 2004	<p>The objective of the Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air and to prevent pollution of air and ecological degradation. Part 6 of the Act makes provision for measures to control dust, noise and offensive odours.</p> <p>The assessment of impacts relating to air quality control and management, where appropriate, will form part of the environmental impact assessment report and environmental management plan. The Proposed Area has not been declared as a dust control area. The proposed project may create minimal dust during excavations which is expected to be short term and site specific.</p>	National & Provincial Government	2004
National Water Act, 1998 (Act 36 of 1998)	The Act ensures protection of water resources. There are no identified streams and wetlands in proximity to the proposed development, therefore the requirements of the Act may not necessarily apply directly. It is however, recommended that the resources be protected at all times.	National & Provincial Government	1998
National Heritage Act, 1999 (Act 25 of 1999)	<p>The Act legislates the necessity for cultural and heritage impact assessments in areas earmarked for development, which exceed 0.5ha. The Act makes provision for potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).</p> <p>A grave yard and mud house were noted along the proposed powerline route. There were no Stone or Iron Age materials that were found.</p>	National & Provincial Government	1999
Noise Control Regulations in terms of the Environmental Conservation Act 73 of 1989	The assessment of impacts relating to noise pollution management and control, where appropriate, forms part	Local Authority	1989

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	<p>of the environmental impact assessment report and environmental management plan. Applicable laws regarding noise management and control refers to the national noise control regulations issued in terms of the Environment Conservation Act 73 of 1989.</p> <p>The inhibition of sites by contractors may generally increase the ambient noise levels in the area. Additional noise may be expected from the increased heavy duty traffic as well as construction equipment.</p>		
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	<p>The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes. The diversity of ecological processes was determined throughout the study. This Act will be read together with relevant policies and management plans.</p> <p>The proposed Alternatives 2 and 3 are within a 500m distance from the Critical Biodiversity area, while the substation is within a 100m distance from the Ecological Support Area.</p>	National	2003
Conservation of Agricultural Resources Act, No. 43 of 1983	<p>To provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.</p> <p>The majority of the site lies within a high agricultural potential.</p>	National	1983

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES	NO
-----	----

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phase?

✓	
Unknown m ³	

If YES, what estimated quantity will be produced per month?

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

The construction of the power lines will generate general construction waste which will be removed by a waste contractor and be disposed of at a registered waste disposal site. Any solid waste produced on site will be collected in suitable containers and removed from site by means of waste disposal vehicle. Further, details on solid waste management are provided in the Environmental Management Programme (EMPr). Solid waste could include but not limited to the following:

- conductor off-cuts;
- steel;
- concrete rubble from structure foundations;
- any vegetation cleared; and
- general waste produced by construction workers.

All waste will be taken to registered waste sites/landfill sites. Should any hazardous waste be produced, it shall be disposed of appropriately at a registered waste disposal site. Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

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

Solid waste will be managed and disposed of in accordance with the attached EMPr and may include:

- General waste, consisting of non-hazardous substances and substances that cannot be recycled. Examples include (but not limited to rubble, that cannot be reused, and food waste. This will be disposed and collected in a waste skip and disposed of at a registered site.
- Re-usable and excess material, which can be used at construction sites will be carefully packaged and delivered to other sites for reuse.
- Hazardous waste which will be disposed of accordingly at a registered hazardous waste disposal site.
- Refuse will at all times be disposed of at a registered site, which is also approved by the local authority. Refuse will not be burned or buried on or near the site.
- Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

Will the activity produce solid waste during its operational phase?

YES	NO
✓	
Unknown m ³	

If YES, what estimated quantity will be produced per month?

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

Waste produced during the operational phase will be primarily from maintenance and domestic waste from employees (site security guards and other). Waste produced will be managed according to the requirements of the EMPr, which will include proper disposal of waste at a registered site as well as recycling where feasible. A record of waste generated and disposed of will be kept and managed accordingly to encourage waste reduction.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

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A registered landfill site will be used and permission will be sought from the municipality before commencement of the construction activities. It is assumed that the closest registered waste disposal site will be used.

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

Waste that does not fit into the municipal waste stream will be disposed of at a registered hazardous waste disposal site while recyclable and reusable will be treated as such.

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 NEM:WA?

YES	NO ✓
-----	---------

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO ✓
-----	---------

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. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO ✓
-----	---------

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

m ³	
YES	NO

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?

YES	NO ✓
-----	---------

If YES, provide the particulars of the facility:

Facility name:

Contact

person:

Postal

address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

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

None identified.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO
	✓

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

YES	NO
	✓

If YES, the applicant must 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:

The only gaseous emissions will be from normal vehicle operation as well as minimal dust generation due to vehicle movements taking place during the construction activities. Dust emissions will have a low significance.

Low levels of dust emissions may also be created from excavations during the construction phase; this will be site specific and low in significance, provided that mitigation measures are in place.

Appropriate dust control measures will be put in place as and when required. Further detail on dust management is provided in the EMPr.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO
	✓

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

YES	NO
✓	

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

YES	NO
	✓

Describe the noise in terms of type and level:

Noise pollution will occur as a result of construction activities as well as movement of vehicles on site; the impact will be highly localised and of a temporary nature.

The potential noise impact will be mitigated by restricting construction activities to normal working hours, which will result in an impact of low significance.

Further details on noise management are provided in the EMPr.

13. WATER USE

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

Municipal <input checked="" type="checkbox"/>	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
---	-------------	-------------	-------------------------------	-------	------------------------------------

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:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

litres	
YES	NO <input checked="" type="checkbox"/>

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

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

None

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

None

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- 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 B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): 0

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

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

YES	NO
✓	

If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Gauteng Province
District Municipality	City of Tshwane Metropolitan Municipality
Local Municipality	City of Tshwane Metropolitan Municipality
Ward Number(s)	Ward 101
Farm name and number	Farms Kleinzonderhout 519JR, Tweedracht 516JR, Kameel Zyn Kraal 519JR and 547JR
Portion number	See attached Appendix I
SG Code	

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agricultural and residential.

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?

YES	NO
	✓

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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15 ✓	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15 ✓	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15 ✓	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>
2.10 At sea	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
		2.8 Dune	<input type="checkbox"/>
		2.9 Seafront	<input type="checkbox"/>

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES ✓	NO	YES ✓	NO	YES ✓	NO
Dolomite, sinkhole or doline areas	YES	NO ✓	YES	NO ✓	YES	NO ✓
Seasonally wet soils (often close to water bodies)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Unstable rocky slopes or steep slopes with loose soil	YES	NO ✓	YES	NO ✓	YES	NO ✓
Dispersive soils (soils that dissolve in water)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Soils with high clay content (clay fraction more than 40%)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Any other unstable soil or geological feature	YES	NO ✓	YES	NO ✓	YES	NO ✓
An area sensitive to erosion	YES	NO ✓	YES	NO ✓	YES	NO ✓

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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.

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).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E ✓	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure ✓	Bare soil ✓

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.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO ✓	UNSURE
Non-Perennial River	YES ✓	NO	UNSURE
Permanent Wetland	YES	NO ✓	UNSURE
Seasonal Wetland	YES ✓	NO	UNSURE
Artificial Wetland	YES	NO ✓	UNSURE
Estuarine / Lagoonal wetland	YES	NO ✓	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

All three Alternatives cross a non-perennial stream while Alternative 1 also crosses a wetland.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that 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:

Natural area ✓	Dam or reservoir	Polo fields
Low density residential ✓	Hospital/medical centre ✓	Filling station ^H

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Medium density residential	School ✓	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A ✓	Church	Agriculture ✓
Retail commercial & warehousing	Old age home	River, stream or wetland ✓
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N ✓	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard ✓
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit ✓	Golf course	Other land uses (describe)

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

The proposed power line crosses a railway line near the Tweedracht substation as well as the R515 road. Transnet SOC Limited was identified as a stakeholder; however, no comments were received from them. It is not anticipated that traffic flow will be have significant impact on the road nor on the railway line as a result of the proposed powerline.

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

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

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES ✓	NO
Core area of a protected area?	YES	NO ✓
Buffer area of a protected area?	YES	NO ✓
Planned expansion area of an existing protected area?	YES	NO ✓
Existing offset area associated with a previous Environmental Authorisation?	YES	NO ✓
Buffer area of the SKA?	YES	NO ✓

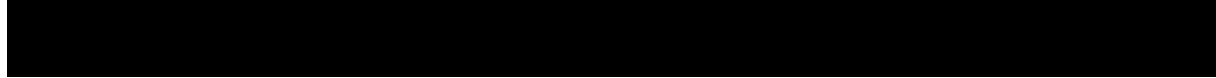
If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

A sensitivity Map is attached as Annexure A.

7. 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 paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES	NO
Uncertain ✓	



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

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The Heritage Impact Assessment was undertaken by Vhufahashu in 2010 and reassessed in August 2015. Archaeological/ Heritage Impact Assessment is conducted in line with the National Heritage Resources Act of 1999 (Act No. 25 of 1999). The Act protects heritage resources through formal and general protection.

A grave yard and mud house were noted north of the main tarred road from Bronkhorstspuit to Kempton park, the area is situated approximately 30 meters from the existing power line (GPS S25°53.692' E 28°31.973'). This study identified a home stead with several buildings in close proximity to the non-perennial stream and existing power line. Currently there are no available written documents on the property; however, the homestead could be associated with 'relatively recent past period' - the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains however, may be close to sixty years of age and may in the near future, qualify as heritage resources.

The grave yard is currently located inside fenced area indicated by Sisal plants as well as rectangular steel fence palisade in the middle. The area is characterized by approximately 40 marked graves. Some of the identified graves have been indicated by granite tombstones whereas most of the graves have been indicated by parked stones as grave dressings. The study identified a burial ground, informal and formal graveyards (Cemeteries) can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No. 25 of 1999), this act applies whenever graves are older than sixty years. The Act also distinguishes various categories of graves and burial grounds. Other legislation with regards to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on exhumation (Ordinance No. 12 of 1980) and the Human Tissue Act (Act No. 65 of 1983 as amended).

Should Alternative 1 be the Eskom preferred power line route, homestead and burial ground (Graveyard) are the major source of concern, and it should be clear that these sites should not be impacted. It is strongly recommended that the identified graveyard site be left intact. The developer should take note of graveyard location and the planning team should ensure that a management plan is put in place to ensure conservation of the graves. All project activities should be altered and planned around these graves in order to protect them from any damage or other cumulative impacts that may occur during power line construction phase. It is strongly recommended that the identified graveyard should be clearly marked with danger tape for visibility during the entire duration of the project and a 30m buffer zone must be allowed around the graves.

Alternatives 2 and 3 are viable and recommended for the establishment of the proposed power line, there are no mitigations recommended as within the proposed power line routes there are no archaeological or place of historical significance envisage to be impacted by the proposed power line establishment.

The recommendations provided and outlined on this report for Alternative route 1 should be followed and adhered to, as graves have high significance value to family members and are protected by law. From an archaeological and cultural heritage resources perspective, should the recommendations be followed there are no objections to the proposed power line project and we recommend to South African Heritage Resources Agency (SAHRA) to approve the project as planned.

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

YES	NO ✓
YES	NO ✓

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

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

The source of information provided hereunder is the Integrated Development Plan 2014/2015 for the City of Tshwane Metropolitan Municipality.

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

The official unemployment rate within the CoT is 24,2%.

Economic profile of local municipality:

City of Tshwane Metropolitan Municipality's household dynamics are as follows:

- Households: 911,536
- Average Household Size: 3
- Female Headed Households: 35,8%
- Formal Dwellings: 80,7%
- Housing Owned: 52%

Nearly 15% of households have no source of income and approximately 46% of households in the City earn an annual income of less than R76 401. The average annual household income in the City is around R60 642 with only 0,65% of households in the City earning more than R457 600 per annum.

The CoT has a well-established manufacturing sector with the automotive industry being a key player in this sector. The CoT boasts the highest concentration of automotive Original Equipment Manufacturers (OEMs) in the country.

Furthermore, the City's economy is characterised by a favourable and rapidly growing trade performance with exports in 2011 comprising 61,7% as a percentage of GDP. The City has contributed 22,2% to the nation's total exports and 15,9 % to its total trade in 2011.

Level of education:

The level of education within the City of Tshwane Metropolitan Municipality is depicted below.

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- No Schooling – 4.2%
- Higher Education – 23,4%
- Matric – 34%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

Undetermined.
Cost estimations have not been calculated as they strongly depend on current construction costs and the site selected for use.

What is the expected yearly income that will be generated by or as a result of the activity?

It is not expected that the proposed development will earn any income – it is primarily to provide reliable bulk services to the local industries and communities.

Will the activity contribute to service infrastructure?

YES ✓	NO
----------	----

Is the activity a public amenity?

YES	NO ✓
-----	---------

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

During the construction phase of the proposed project it is not envisaged that any direct employment will be created. The Client will appoint Contractors who will bring in their own working teams to undertake the project.

What is the expected value of the employment opportunities during the development and construction phase?

This cannot be quantified as it is not foreseen that any additional employment will be generated by the project.

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What percentage of this will accrue to previously disadvantaged individuals?

None - it is not foreseen that any additional employment opportunities will be created by the project.

How many permanent new employment opportunities will be created during the operational phase of the activity?

None – due to the nature of the project no permanent employees will be required on site to manage the operational phase.

What is the expected current value of the employment opportunities during the first 10 years?

No direct employment opportunities will be generated by the project, during any of the phases. However it is estimated that numerous indirect employment opportunities might be generated as a result of the additional bulk infrastructure which the project proposes to install in the area.

What percentage of this will accrue to previously disadvantaged individuals?

None – it is not foreseen that any additional employment opportunities will be generated by the project.

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

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a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA) ✓	Ecological Support Area (ESA) ✓	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	<p>Sections of the study areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services.</p> <p>Part of the proposed site is classified as ESA. Accordingly, this area is not essential for meeting biodiversity representation targets/thresholds but nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration.</p>

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	35%	35% of the habitat observed on site was natural, occupied by indigenous vegetation, with no sign of moderation or cutting down.
Near Natural (includes areas with low to moderate level of alien invasive plants)	15%	A small portion of the assessed area was cultivated and maintained for sheep grazing, a small dam was observed in proximity to the substation where a farm is located. However, this land is still regarded as natural.
Degraded (includes areas heavily invaded by	15%	Along Alternatives 2 and 3 routes, alien species were observed that indicate disturbed land. Another small portion group of alien species were identified in the

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alien plants)		substations.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	35%	The proposed site is highly transformed due to development of linear and electrical infrastructure including roads, power lines and substations. Further, residential developments as well as agricultural activities have contributed significantly to the transformation of land.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable ✓							
	Least Threatened	YES ✓	NO	UNSURE	YES	NO ✓	YES	NO ✓

- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

VEGETATION

The study area is located within the Grassland Biome and is comprised entirely of the Rand Highveld Grassland vegetation type (Bredenkamp and Van Rooyen, 1996). The vegetation type occurs on a highly variable landscape with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains. This has previously been classified as Cymbopogon-Themeda veld by Acocks (1998). Sections of the site do however; have vegetation characteristics of Mixed Bushveld. This vegetation type has previously been described as Mixed Bushveld by Acocks (1998) as it is located in the Savannah biome (Rutherford and Westfall, 1994).

The vegetation is species-rich, wiry, sour grassland alternating with low, sour shrubland on rocky outcrops and steeper slopes. There is a high diversity of herbs. Rocky hills and ridges carry sparse (savannoid) woodlands accompanied by a rich suite of shrubs. Poorly conserved, only small patches (1%) are protected. Almost half has been transformed mostly by cultivation, plantations, urbanisation or dam-building.

The site has been disturbed extensively as a result of agricultural practices which are the predominant activity practised in the area in general. Large portions of the study area have been burnt. Areas that were not cultivated were used for grazing and the pastures were predominantly sour grasslands. Within the site, different graminoid communities were identified, which were associated with different landscape units and edaphic features. The vegetation was characterised by the presence of graminoids, herbs and shrubs.

The proposed Tweedacht Power line development site is regarded as of MEDIUM sensitivity due to the following:

- Alien invasive species were observed on site, and are likely to continue spreading;
- Agricultural land has replaced indigenous vegetation in some areas;
- No red data species was observed; and
- No species of conservation value was observed.

Although the area is considered to be of medium sensitivity, careful consideration of the environment should still be exercised during all phases of the project. This is due to the following:

- A channelled valley bottom wetland was observed on site and is considered sensitive;
- Some alien invasive species observed on site may be used for medicinal purposes; and
- The grasslands in the area are considered vulnerable.

Due to the low impact nature of powerline development, this study approves commencement of the proposed activities.

Avifauna

The avifauna study was undertaken by Megan Diamond of Feathers Environmental. The study highlighted that the study area is located within the Grassland Biome and is comprised entirely of the Rand Highveld Grassland vegetation type. Investigation of the immediate study area revealed the presence of dense indigenous woodland, residential properties (both well-established suburban housing and derelict buildings that are now occupied by vagrants), stands of Eucalyptus trees and small industrial properties. The most sensitive of the micro habitats within the study area is the woodland vegetation which provides foraging and roosting habitat for the large diversity of passerine species recorded in the area.

A fairly wide diversity of species (over 250 species) could be found in the broader area within which this site falls based on existing data sources. Although 16 Red List species have been recorded in the broader study area, most of the site is already relatively highly impacted upon by human activities and the likelihood of these species utilizing the site is considered to be low for most species. This is particularly true of the Red List species, of which only a handful are likely to frequent the site itself. Current South African Bird Atlas Project data is far more representative of the species likely to occur within the study area.

In general terms, the impacts that could be associated with a project of this nature are: collision of birds on certain sections of the lines, particularly in the open grassland-type habitat and wetland areas; electrocution of large birds perched on the poles; destruction of habitat, and disturbance of birds are both likely to be of relatively low significance in this study area, as a result of relatively high existing levels of habitat degradation and disturbance.

Taking the above information into account, given the presence of existing habitat degradation and disturbance, it is anticipated that the proposed Tweedracht 88kV power line development can proceed with acceptable levels of impact on the resident avifauna. From an avifaunal perspective, route Alternative 3 is considered to have least impact due to its orientation alongside the road and railway networks in the study area. Collision poses the biggest potential risk to avifauna, based on the micro habitat available in the study area. Small sections of power line marking will be required to mitigate for the collision impact should Alternatives 1 or 2 be selected. Electrocutions can be successfully mitigated by ensuring that a bird-friendly monopole structure is used.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	The Star	
Date published	04 August 2015	
Site notice position	Latitude	Longitude
	26° 8' 48.12" S	27° 45' 15.64" E
	26° 11' 30.85" S	27° 42' 40.70" E
Date placed	05 August 2015	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

Proof of placement of notice is attached as Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2) (e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr Hennie Jacobs	Land Owner	ddvland@mweb.co.za
Mr Conradie	Land Owner	maans@tes.co.za 083 250 5060
Rod Gridbrit	Prodigy Trading (Pty) Ltd.	011 748 2800/ 079 505 3092
Legal Advisor	Prodigy Trading (Pty) Ltd	082 857 3082

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Proof of written notification to key stakeholders attached as Appendix E2.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
None to date.	

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4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR 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 the Final BAR as Appendix E3a.

Comments and Response have been attached as Appendix E3a.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
City of Tshwane Metropolitan Municipality	Rudzani Mukheli L. Puling	012 358 8714		RudzaniM@tshwane.gov.za lelokop@tshwane.gov.za	P.O. Box 1454, Pretoria,0001
Gauteng Department of Agriculture and Rural Development	Boniswa Belot	011 240 3052	086 420 1000	Boniswa.belot@gauteng.gov.za	P.O. Box 8769, Johannesburg2000
Gauteng Department of Roads and Transport		01135575 01			P. O. Box 83, Marshalltown 2000
Department of Water and Sanitation	Lilian Siwelane	012 336 8733	012 336 8850	lillian@dws.go.za	Private Bag X313, Pretoria,0001
Transnet SOC Limited	Johannes Boucher	011 308 4707		johannes.boucher@transnet.net mphakiseng.matlala@transnet.net	P.O. Box 72501, Parkview, Johannesburg2122
South African Heritage Resources Agency	Ms Nokumhanya Khumalo	02146245 02	021 4624509	nkhumalo@sahra.org.za	111Harrington Street, Cape Town,8001

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

Proof has been included as Appendix E4. No comments were received to date.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the

BASIC ASSESSMENT REPORT

requirements of that sub-regulation 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. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

List of Registered I&AP attached as Appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

Copies of correspondence included in report. No meetings have been held to date.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 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. 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

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts 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. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A (2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	<p>Direct Impacts</p> <p>Employment - Job creation and investments into the project result in opportunities during the planning and design phase. This impact will typically be limited to skilled engineers and planning professionals. Proposed project will result in very limited opportunities to the skilled local community during the construction phase. This impact will be positive.</p>	Medium	No mitigation
	<p>Air Pollution</p> <p>The only potential air pollutant during construction may be dust emanating from site preparation and excavations during construction. Given the nature and magnitude of the proposed project it is anticipated that if not mitigated the impact will be local in extent, short term, and of low significance</p>	Low	<ul style="list-style-type: none"> • Dust suppression techniques must be implemented. These techniques will include dampening the ground with a water truck, adhering to site speed limits etc. all construction staff must wear their dust masks whenever necessary. • No burning of waste material, such as vegetation from any clearing operations is allowed; and • Drive at moderate speeds

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Activity	Impact summary	Significance	Proposed mitigation
	<p>Visual Impact</p> <p>The proposed activity will certainly change the visual character of the area particularly considering that the proposed site is located in a flat area thus may be viewed from the adjacent regional roads and railway line. Given the flat topography of the site and the proximity to the R25, R515 and some residential settlements, the impact can be considered definite, short term, local in extent and low to insignificant as there is already existing powerline and associated linear infrastructure.</p>	Low	<p>on the access road in order to minimise or avoid dust pollution.</p> <ul style="list-style-type: none"> • Keep the construction sites and camps neat, clean and organised in order to portray a tidy appearance; and • Screen the construction camp and lay-down yards by enclosing the entire area with a dark green or black shade cloth of no less than 2m height.
	<p>Noise</p> <p>An increase in noise is expected due to construction, which might have a minor impact. Given the distance of the proposed site to the community and school as well as medical facilities the noise during the construction phase may be of medium significance. With proposer mitigation the impact will be low and short term.</p>	Low	<ul style="list-style-type: none"> • It must be ensured that all vehicles used during construction are properly maintained. • Surrounding residents should be notified in advance of construction schedules. • Working hours must be restricted to daytime only (7am – 5pm). • Selecting equipment with lower sound power levels which is in accordance with the Health and Safety Regulations.
	<p>Soils and Erosion</p> <p>The loss of topsoil in South Africa is a national concern and thus erosion control should be taken seriously. Ineffective storm water management systems can result in soil erosion. Where soils are highly erodible, adequate measures must be implemented to prevent undue soil erosion.</p> <p>Extensive soil erosion is not expected during the construction</p>	Low	<ul style="list-style-type: none"> • Implementation of anti-erosion measures such as the construction of berms to reduce the water velocity is essential. • Storm water runoff shall be considered and its flow controlled on the construction site. • Stockpiles should not be higher than 1.5 meters. • Foundation excavations for

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>of the proposed project, however, it is anticipated that the proposed project might be experienced during wet seasons especially on the stockpiles (Topsoil and Subsoil).</p> <p>The potential impact on soils will be of low significance.</p>		<p>each structure must be inspected by a competent person during construction.</p> <ul style="list-style-type: none"> • Excavation must not be left open for longer than four weeks. Proper storm water management measures must be put in place. • All areas susceptible to erosion must be protected. • Monitoring of disturbed areas is essential in order to combat and mitigate alien encroachment. • Only the area to be constructed on should vegetation be removed from. • Make use of existing roads.
	<p>Agriculture</p> <p>The area is classified as high agricultural potential as evident from the agricultural activities in place. This alternative will have relatively more significant impact on agriculture as it traverses more farms. There are potential impacts associated with the construction of the proposed power line which are predominantly associated with soil disturbance and compaction including:</p> <ul style="list-style-type: none"> • The use of heavy machinery or vehicles will lead to the compaction of the disturbed soil, making rehabilitation of these areas unlikely to be successful. • Sedimentation of drainage lines could occur if construction activities lead to the dumping of soil into these sensitive areas or soil is deposited downslope in surface runoff. • Potential mismanagement of waste and pollution including hydrocarbons, construction 	<p>Medium</p>	<ul style="list-style-type: none"> • Strict use of internal roads for heavy machinery; • Control of vegetation clearing and exposure of soil; and • Management of construction waste.

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Activity	Impact summary	Significance	Proposed mitigation
	<p>waste and hazardous chemicals will result in the pollution of the soil through surface runoff during rainfall events, or subsurface water movement.</p> <p>Given the magnitude of the proposed project the impact on agricultural field can be considered to be short term and medium in significance.</p>		
	<p>Fauna/ Avifauna</p> <p>The construction phase will result in habitat destruction which will impact on the faunal communities including avifauna. The impacts identified include the following:</p> <ul style="list-style-type: none"> • Destruction of bird habitat – likely to affect Red List species and grassland habitat specialists, such as Melodious Lark, White-bellied Korhaan and others. • Electrocutation – likely to affect large raptors, and species such as storks, and herons. • Collision of birds – likely to affect water birds, korhaans, storks and possible Secretary bird. • Disturbance of birds – likely to affect breeding birds in particular. <p>This impact is of medium significance considering the sensitivity of the area that the line will traverse (wetland, woodland vegetation etc.).</p>	<p>Medium</p>	<ul style="list-style-type: none"> • An Eskom approved bird friendly pole design must be used. The Distribution Technical Bulletin must be used in this regard. • In addition, if a monopole structure is used, a Bird Perch must be installed on top of all poles, to provide safe perching substrate for birds well above the dangerous hardware. • Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. • No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site. • Contract employees must be educated about the value of wild animals and the importance of their conservation. • The collection, hunting or harvesting of any animals at the site should be strictly forbidden. The rocky outcrops are particularly sensitive in this regard and construction personnel should not be allowed off of the construction site and onto these areas.

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Activity	Impact summary	Significance	Proposed mitigation
	<p>Flora The proposed powerline is located within the Ecological Support Area. Site preparation and construction will result in the disturbance of and the loss of vegetation and potentially the loss of protected plant species. This impact will be of medium significance if not well managed, however with proper mitigation measures it can be reduced to low.</p>	Low	<ul style="list-style-type: none"> • Fires should only be allowed within fire-safe demarcated areas. • No pets should be allowed on site. <ul style="list-style-type: none"> • Vegetation clearing should be kept minimal and only area to be used for construction should be cleared. • Where soil disturbance is required for the laying of service infrastructure, the topsoil should be put aside and replaced after the infrastructure has been installed. Areas to be cleared should be demarcated and only those individuals of plant species directly within the foot print should be cleared/ removed. • Soil disturbance and vegetation clearing should be kept to minimum. • Cleared areas that are not going to be used should be re-vegetated with locally-collected seed of indigenous species. • Regular monitoring to ensure that alien plants are not increasing as a result of the disturbance that has taken place. • Before the commencement of construction, an independent Ecological Control Officer (ECO) should be appointed to supervise the process. • The area where construction will take place should be marked off with a fence or any other form of demarcation in order to

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Activity	Impact summary	Significance	Proposed mitigation
			<p>keep vegetation destruction to minimum and confined to a single area.</p> <ul style="list-style-type: none"> • Make use of existing roads (both vehicles and pedestrians). • Construction in sensitive areas should be avoided and prohibited. • No fires should be allowed on site. • A rehabilitation plan for vegetation should be in place and implemented.
	<p>Surface and groundwater pollution During construction there is a risk that construction material may pollute the surface and/or ground water on site. The closest water source includes non-perennial streams and wetlands within the proposed site. Substances such as cement residue, bio fuels, and paints must be adequately controlled. In addition exposed surfaces during construction would provide a source of sediments to be taken up by storm water and resulting in down-stream sedimentation of water resources. This impact is of medium negative significance and can be reduced to a low significance.</p>	<p>Low</p>	<ul style="list-style-type: none"> • Care must be taken during construction to prevent leaks and spillage of materials that may detrimentally affect water quality (especially fuels and chemicals). • Adequate measures must be put in place to prevent runoff of construction debris to nearby streams or water bodies. • Impacts on wetlands may include changing the quantity and fluctuation as well as the amount of sediment entering the water resource and associated change in turbidity. • If construction takes place during the rainy season, storm water will have to be managed appropriately to reduce the opportunities of construction debris being washed off.
	<p>Impact on cultural and heritage resources A grave yard and mud house were noted at the site; in close proximity to Alternative one to be specific. The potential impact of the proposed project on cultural</p>	<p>Medium</p>	<ul style="list-style-type: none"> • The identified graveyard should be clearly marked with danger tape for visibility during the entire

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Activity	Impact summary	Significance	Proposed mitigation
	<p>heritage sites is considered to be high and therefore significant. With proper mitigation the impact can be reduced to medium.</p>		<p>duration of the project and a 30m buffer zone must be allowed around the graves.</p> <ul style="list-style-type: none"> • Should any other the heritage or archaeological artefacts be discovered during construction or operational phase, all works must be stopped at the affected area and SAHRA must be contacted.
	<p>Traffic During the construction phase increased heavy vehicle traffic should be expected. Without management, such increased traffic loads may negatively impact existing traffic flow. Further unmanaged construction vehicles may decrease road safety for other road users and uncontrolled movement of construction vehicles may result in unnecessary impacts to the environment through vegetation and habitat destruction.</p>	<p>Medium</p>	<ul style="list-style-type: none"> • The delivery of construction material and equipment should be limited to hours outside peak traffic times (including weekends) prevailing on the surrounding roads. • Delivery vehicles must comply with all traffic laws and by laws. • A speed limit of 40 must be adhered to avoid dust.
	<p>Social Environment The construction phase may have an impact on the surrounding residents if not properly managed. It could result in the disturbance of residents due to construction related activities. Other impacts may be safety, considering the proximity of informal settlements and facilities to the proposed project alignment. The potential increase in traffic may pose a safety risk to surrounding residents, particularly scholars. Other social related issues may include theft; however, this will be local.</p>	<p>Low</p>	<ul style="list-style-type: none"> • Residents must be kept abreast with the on-going activities. A Land owner liaison officer must be appointed to manage and address societal issues accordingly.
	<p>Indirect Impacts</p> <p>Safety and Security The presence of the construction workforce in the area is a potential</p>	<p>Low</p>	<ul style="list-style-type: none"> • Liaison with landowners prior to entering their properties;

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Activity	Impact summary	Significance	Proposed mitigation
	<p>risk to the surrounding landowners in terms of safety, crime and security. The significance of the potential impacts without the corrective actions (adequate safety measures in dangerous areas) is considered to be of medium significance. The implementation of corrective actions could reduce the impacts to a low level of significance.</p>		<ul style="list-style-type: none"> • Access to the construction site should be controlled; • Warning signs should be placed on site to make people aware of the dangers; • No-go area should be clearly demarcated, marked and visible; • Landowners must be kept abreast with movements in and around their properties; • Health and Safety standards and guidelines must be implemented.
	<p>Cumulative Impacts</p> <p>Habitat Destruction</p> <p>Although each power line probably affects a relatively small proportion of the landscape, there are already several existing power lines in this area, and additional lines will add further cumulative impact. It is important therefore to try to limit the effects of this new power line as much as possible, by applying the mitigations described above.</p> <ul style="list-style-type: none"> • Construction and maintenance of existing power lines and substations • Construction and maintenance of existing railway line <p>Hay farming in surrounding farms</p>	<p>Low</p>	<p>The normal suite of environmental good practices should be applied, such as ensuring strict control of staff, vehicles and machinery on site and limiting the creation of new roads as far as possible.</p>
	<p>Alien Species Invasion</p> <p>Alien vegetation spreads easily on disturbed soil and is likely to occur on the disturbed soil that has been removed and stockpiled. Associated impacts include:</p> <ul style="list-style-type: none"> • Land transformation • Construction and maintenance of existing power lines and 	<p>Moderate to low</p>	<ul style="list-style-type: none"> • To combat the potential spread of alien vegetation in the area, recommended mitigation measures should be followed. • Alien species (including their seedlings and

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Activity	Impact summary	Significance	Proposed mitigation
	substations • Construction and maintenance of existing railway line • Hay farming in surrounding farms		saplings) identified within the study area should be removed (manually preferably) to prevent their spreading.
	<p>Fauna and Avifauna</p> <p>The cumulative impacts of power lines on birds through collision are significant. This area already has several existing distribution power lines.</p> <p>The cumulative impacts of power lines on birds through electrocution are significant nationally since the species already suffer from significant power line mortalities. This particular area already has several existing distribution power lines.</p>	Low	Efforts should be made to ensure that the new power line is built bird friendly and results in no additional impact on birds in the area.

Alternative 2

The impacts of Alternative 2 are similar to Alternative 1, however, they are **lower in significance** for the following reasons:

- Alternative 2 is far removed from the identified heritage finds i.e. the mud house and the grave yard.
- This alternative will run along the roads, therefore there will be minimal disturbance on agricultural activities.
- Although the alternative will cross a small non-perennial stream the impact will be less than that of Alternative 1 which crosses a wetland
- From an avifaunal perspective, alternative 2 is preferred over Alternative 1 as the associated impacts will be reduced.
- Alternative 2 will have minimal impacts on the identified ESA given that it spans along a disturbed area due to road construction.
- Impact of heavy duty traffic within the community will be reduced as construction will take place closer to the primary access roads i.e. the R25 and R515.

Alternative 3

The impacts of Alternative 3 are similar to Alternative 2, however, they are lower in significance for the following reasons:

- Alternative 3 is even further removed from the identified heritage finds i.e. the mud house and the grave yard.
- This alternative will run along the roads, therefore there will be minimal disturbance on agricultural activities.

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Activity	Impact summary	Significance	Proposed mitigation
<ul style="list-style-type: none"> • Although the alternative will cross a small non-perennial stream the impact will be less than that of Alternative 1 which crosses a wetland • From an avifaunal perspective alternative 3 is most preferred over Alternative 1 and 2 as the associated impacts will be reduced. • Alternative 3 will have minimal impacts on the identified ESA given that its spans along a disturbed area due to road construction. • Impact of heavy duty traffic within the community will be reduced as construction will take place closer to the primary access roads i.e. the R25 and R515. 			
No-go option			
	<p>Direct impacts: Socioeconomic Should the proposed project not proceed, this implies that in future there will not be sufficient electricity provision in the area given the industrial and residential developments that are taking place in the area.</p> <p>The identified job opportunities will not be realised.</p>	Medium	The proposed project must proceed and all recommendation and mitigation measures must be adhered
	<p>Physical Environment Positive impact – The area will remain intact as it will not be disturbed by the proposed development i.e. all negative impacts identified will not occur.</p>	Medium	Compared to the socioeconomic benefit the potential impact on the physical environment is minimal therefore the proposed project must proceed and all recommendation and mitigation measures must be adhered
	<p>Indirect impacts: Business/Employment Opportunities Local suppliers and Contractor will not benefit from the business opportunities and job creation relating to construction.</p>	Medium	The proposed project must proceed and all recommendation and mitigation measures must be adhered
	<p>Cumulative impacts: The cumulative impacts of not constructing the proposed power line are significant particularly given the current electricity challenges.</p>		

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. 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.

Alternative A (preferred alternative) (Alternative 3)

Certain factors have been taken into account when assessing the impact of the proposed activity on the environment.

PLANNING AND DEVELOPMENT PHASE

Impacts associated with the planning and development phase of the proposed activity include the creation of job opportunities for skilled engineers and planning professions. This positive impact will be definite and short term in duration. No significant negative impact has been associated with this phase and the proposed activity.

CONSTRUCTION PHASE

The positive impacts identified for this phase include job creation and a positive economic outlook for the municipality and the country at large, these impacts will be enhanced in order to maximise the benefits. Impacts associated with the construction phase of the proposed activity can be regarded as being of LOW significance without mitigation and even lower with mitigation. These includes impacts on the following:

- Vegetation;
- Water resources;
- Faunal and avifaunal communities; and
- Heritage
- Traffic
- Agriculture

With corrective measures in place the identified negative impacts can be reduced to low, however the impact on the identified graveyard is significant and a concern if this alternative is considered.

OPERATIONAL PHASE

No significant negative impact can be associated with the operational phase of the proposed activity. The operational phase will have positive impacts associated with increased capacity and reliable supply.

The potential negative environmental impacts will be impact on avifauna due to collision and electrocution which can be mitigated to an acceptable level. Provided that the proposed mitigation measures are implemented, no factors were determined which should prevent the proposed development from taking place.

DECOMMISSIONING PHASE

Alternative B (TECHNICAL)

If technical Alternative 2 is considered i.e. underground cabling instead of above ground, the impacts on vegetation and water resources will be more significant as the entire length will have to be cleared for construction purposes as compared to clearing of portions for installation of pylons.

Further the impact of bird electrocution will be reduced to insignificant during the operational phase and the same will apply on visual which is positive.

However, the identified negative impacts associated with above ground can be minimised by ensuring that mitigation measures proposed are implemented.

Alternative C

No-go alternative (compulsory)

The no-go alternative was assessed not to be an option given the economic and social benefits of the proposed project which far outweigh other identified impacts. If the no-go alternative is considered none of the identified impacts will be realised.

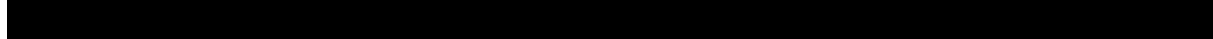
Further the no go will imply that the already approved servitude cannot proceed.

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)?

YES ✓	NO
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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.

It is recommended that the proposed project (Alternative 3) be authorised i.e. development of the approximately 6km 88 kV powerline. Further it is recommended that the above ground alternative be considered as it is the most technically feasible and economically viable. Although it’s slightly longer than the other alternatives, it is preferred because of the relatively minimal impacts it has on heritage, wetlands, vegetation and avifauna. More so the alternative runs along an already disturbed area due to roads and other linear developments.

The recommendation is based on the following:

- The identified environmental impacts are of low significance given the disturbed nature of the proposed project site due to previous developments and historic activities;
- The identified positive impacts far outweigh the negative impacts; and
- The proposed project will strengthen electricity network in the area thereby ensuring better livelihood.

Environmental Management Programme (EMPr) has been prepared and it will serve as the key reference of the EAPs recommendations jointly with Eskom’s policies that are already in place. The EMPr has included measures proposed to mitigate any adverse impacts of the activities and the monitoring. Some of the key recommendation include:

- Ensure compliance with the requirements of WULA considering the proximity of the proposed project to water resources.
- The steel monopole design should be used for the new power line towers. This will ensure that minimum disturbance on the soil. Further, it will mitigate the impact of electrocutions as well as the impact of bird induced faulting.
- Whilst the proposed project specifically is not anticipated to add significantly to the current ambient noise levels it is recommended that noise be reduced at all times given proximity to the local school and health facility.
- The recommendation made by the Heritage specialist pertaining to the identified graves and mud

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house must be implemented.

- The recommendations made by the avifaunal specialist must be taken into consideration.
- The attached construction EMPr must be implemented and adhered to in order to minimise all potential negative impacts and to enhance positive impacts where applicable.

Is an EMPr attached?

YES ✓	NO
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The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

MUNYADZIWA RIKHOTSO

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

D1: AVIFAUNA

D2: Ecological

D3: Heritage

Appendix E: Public Participation

E1a: Proof of Placement of Site Notices

E1b: Newspaper Advertisement

E2: Proof of Written Notifications to key Stakeholders

E3a: Comments and Response Report

E3b: Public Participation Report

E4: Proof of Written Notices to Organs of State

E5: I&APs Database

E6: Copies of Correspondence and minutes of meetings

E7: Background Information Document

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information

Appendix J1: List of Farm Names and SG Codes