



**Construction and strengthening of the
Eskom infrastructure in the
Viljoenskroon area**

**Consultation Basic Assessment Report
Eskom**

10 March 2017

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to life*

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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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.

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.

1.1 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. **Please refer to Appendix I.**

1.1.1 PROJECT DESCRIPTION

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

Eskom Distribution (Free State Operating Unit) proposes various infrastructure activities in the Viljoenskroon area. The activities are associated with network strengthening, refurbishment and electrification. Two general work packages are planned to be undertaken, triggering two listed activities under the Environmental Impact Assessment (EIA) Regulations (GN R 982 of 2014) and associated Listing Notices (LN) (GN R 983, GN R 984 and GN R 985).

The proposed activities are listed below under the applicable work packages. Note that the proposed construction activities triggering GN R 983 are highlighted in bold text. The remainder of the activities are considered associated activities and infrastructure.

Viljoenskroon Municipality Substation-related Projects

- 1) Decommission 1.64km 88kV T-off line that is aligned from the 88kV Vierfontein-Viljoenskroon Munic Substation power line to Senwesco Substation;
- 2) **Construct a 17.24km 132kV single circuit monopole single Kingbird conductor line on the eastern side from the new Viljoenskroon Municipality Substation along the tar road until it reaches the Reitzburg 132kV line;**
- 3) **Construct a new 132kV switching station at a proposed location, and name it Marseilles Switching Station;**
- 4) Construct a ±4.6km 11kV twin Hare line from the new Viljoenskroon Municipality Substation to the new Senwesco Substation;
- 5) **Construct a new Viljoenskroon 132kV substation next to the existing Viljoenskroon Municipality substation. This line will require a 31m wide corridor approval (15.5m from the centreline of the powerline to both sides);**
- 6) **Construct a new 1x11/6.6kV 10MVA Senwesco substation next to the existing Senwesco substation;**
- 7) Disconnect the Vierfontein-Viljoenskroon 88kV Line from the 88/11kV Vierfontein Rural Substation, and decommission the existing 88/11kV Vierfontein Substation;
- 8) Connect the Vierfontein-Viljoenskroon Kingbird line to the new 132kV Viljoenskroon Municipality Substation; and
- 9) Decommission the existing 88/11kV Viljoenskroon Municipality Substation.

Vierfontein Substation-related Projects

- 1) **Construct a new 1.969km 132kV single circuit single Kingbird mono-structure line from the 132kV Grootkop 1 powerline, which is near the existing Vierfontein Rural Substation, to the newly constructed 132kV Vierfontein Rural Substation;**

- 2) Demolish 4km 132kV Panther line from MERGRO 49 towards the new Marseilles Switching Station;
- 3) **Construct a new Vierfontein rural 132/11kV Substation next to existing substation;**
- 4) Connect the Vierfontein-Viljoenskroon Kingbird line to the new 132kV Vierfontein Substation; and
- 5) Decommission the existing 5.96km Vierfontein-Jersey 88kV power line.

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
Example: <i>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.</i>	<i>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</i>
GN R983, Activity 11: The development of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;	Construction of: <ul style="list-style-type: none"> • 17.24km 132kV Single circuit Mono pole single Kingbird conductor line from the new Viljoenskroon Municipality Substation to the Reitzburg 132kV line, occurring within a 31m-wide corridor to allow micro-siting of poles; • Viljoenskroon Municipality 132kV substation; • Marseilles 132kV switching station; • Senwesco 1x11/6.6kV 10MVA substation; • 1.969km 132kV single circuit Kingbird mono-structure line from Grootklop 1 line to the proposed Vierfontein 11kV rural substation; and • Vierfontein rural 132/11kV substation.
GN R983, Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.	Less than 20 hectares of indigenous vegetation may be cleared for the construction of the Viljoenskroon Municipality 132 kV substation, the Marseilles 132 kV switching station, the Senwesco substation and the Vierfontein rural 11kV substation.

1.1.2 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

For the new Marseilles Switching Station:

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The newly constructed switching station would be located east of the R76 road.	27° 5'38.06"S	26°52'14.85"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
The newly constructed switching station would be located west of the R76 road.	27° 5'42.95"S	26°52'0.12"E
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

For the new Vierfontein Substation:

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The newly constructed substation would be located directly north of the existing substation.	27° 5'33.35"S	26°46'31.15"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
The newly constructed substation would be located directly south of the existing substation.	27° 5'34.51"S	26°46'31.73"E
Alternative 3		

Description	Lat (DDMMSS)	Long (DDMMSS)
The newly constructed substation would be located east of the existing substation. This alternative is least preferred due to the presence of existing infrastructure on this location.	27° 5'33.60"S	26°46'32.81"E

In the case of linear activities:

For the Viljoenskroon to Reitzburg line:

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

27°10'57.62"S	26°56'22.81"E
27° 8'10.53"S	26°54'38.56"E
27° 5'38.06"S	26°52'14.85"E

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

27°10'57.62"S	26°56'22.81"E
27° 8'14.14"S	26°54'35.00"E
27° 5'38.06"S	26°52'14.85"E

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	N/A
N/A	N/A
N/A	N/A

For the new Vierfontein line:

No alternatives are considered in this case, as the line will be located on an area already disturbed by similar activities. Considering alternatives would entail locating the line on an undisturbed area.

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

27° 6'11.54"S	26°46'21.45"E
27° 5'50.58"S	26°46'46.52"E
27° 5'31.59"S	26°46'31.14"E

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	N/A
N/A	N/A
N/A	N/A

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	N/A
N/A	N/A
N/A	N/A

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

Please refer to **Appendix A4** for a map of the alternatives, and **Appendix A5** for 250m coordinates of Alternatives 1 (preferred) and 2.

BASIC ASSESSMENT REPORT

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)
N/A		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A		

c) Technology alternatives

Alternative 1 (preferred alternative)
N/A
Alternative 2
N/A
Alternative 3
N/A

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

Alternative 1 (preferred alternative)
N/A
Alternative 2
N/A
Alternative 3
N/A

e) No-go alternative

No new switching station would be constructed where Marseilles switching station is proposed. This would result in the new 132 kV line from Viljoenskroon substation not being connected. The proposed 132 kV line from Viljoenskroon to Marseilles switching station would not be constructed as there would be no switching station to connect it to.

The substation at Vierfontein would remain in its location, with the additional substation not being constructed next to it on any of the three proposed locations.

The existing line at Vierfontein would remain where it is currently located, and no new line would be constructed or connected at the substation.

There would be no impacts on the environment as a result of the proposed strengthening, refurbishment and electrification activities. However, it would lead to a lack of reliable electricity in the Viljoenskroon and Vierfontein areas.

Status quo in terms of current capacity and distribution will remain unchanged.

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

1.1.3 PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

For the new Marseilles Switching Station:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

Approximately 520 m ²
Approximately 520 m ²
N/A

Alternative:

For the new Vierfontein Substation:

Alternative A1² (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

Approximately 520 m ²
Approximately 520 m ²
Approximately 520 m ²

or, for linear activities:

Alternative:

For the Viljoenskroon 132kV line:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

Approximately 12 300 m
Approximately 12 300 m
m

Alternative:

For the new Vierfontein line:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

Approximately 1 000 m
m
m

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

The sizes referred to here are those of the affected farm portions.

Alternative:

For the new Marseilles Switching Station:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

13950 m ²
13950 m ²
N/A

Alternative:

Size of the site/servitude:

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

² "Alternative A.." refer to activity, process, technology or other alternatives.

For the new Vierfontein Substation:

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

48,1535 m ²
48,1535 m ²
48,1535 m ²

or, for linear activities:

The corridor applied for, for the two lines, is 31 m wide each.

Alternative:

For the Viljoenskroon 132kV line:

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

Size of the site/servitude:

Approximately 534,750 m ²
Approximately 534,750 m ²
m ²

Alternative:

For the new Vierfontein line:

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

Size of the site/servitude:

Approximately 61,039 m
m
m

1.1.4 SITE ACCESS

Does ready access to the site exist?

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

YES	NO
	N/A m

Describe the type of access road planned:

N/A

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.

1.1.5 LOCALITY MAP

Please refer to **Appendix A** for the 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).

1.1.6 LAYOUT/ROUTE PLAN

Please refer to [Appendix A](#) for the layout map.

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.

1.1.7 SENSITIVITY MAP

Please refer to [Appendix A](#) for the 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.

1.1.8 SITE PHOTOGRAPHS

Site photographs are appended in [Appendix B](#).

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.

1.1.9 FACILITY ILLUSTRATION

Facility illustrations are appended in [Appendix C](#).

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.

1.1.10 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
Some of the affected properties have servitude agreements between the applicant the land owners. However, additional servitude negotiations will take place where required, during the final survey of the line, its final design, and after an Environmental Authorisation is obtained.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
The activity is in line with the Free State Vision of 2030 which envisages that, inter alia, "basic services such as healthcare, education, electricity, water and sanitation will be equitably accessed by the people of the province." It is aligned to the third Provincial strategic growth and development pillar, representing <i>Improved Quality of Life</i> , and in particular Driver 8 under these pillars, which is to "expand and maintain basic and road infrastructure".			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The proposed substations will occur in areas that have similar developments, and will not occur in such a manner that it will extend the urban edge. The transmission lines do not apply here as they may always extend beyond the urban edge of any settlement.			
(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
According to the Free State Spatial Development Framework, the proposed activities are located within the Spatial Category C: Agricultural Areas. Viljoenskroon is rated as having agricultural investment potential. The proposed project will support the agricultural sector in the town. Similarly, Vierfontein is rated as being highly deprived. Enhancing the electrical infrastructure in this town will mitigate the risk of further deprivation.			

(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
No Structure Plan exists for the Moqhaka Local Municipality (MLM). Rather, the Integrated Development Plan serves to guide urban structure planning in the region. See 2 (b).			
(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 Fezile Dabi District Municipality (DM) does not have an Environmental Management Framework (SEF, 2011). The environmental functions performed by the DM and its local municipality constituents will not be undermined by the proposed project activities.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
Not applicable.			
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
Viljoenskroon is rated as having agricultural investment potential, in line with the Free State SDF. The proposed project will support the agricultural sector in the town. Similarly, Vierfontein is rated as being highly deprived. Enhancing the electrical infrastructure in this town will mitigate the risk of further deprivation. Therefore, it is in line with the objectives of the IDP.			
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.)	YES	NO	Please explain
The proposed project is particularly relevant in the local context as it will ensure stable electricity provision in the Vierfontein and Viljoenskroon urban and rural areas.			
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.)	YES	NO	Please explain
The project will occur outside of the municipal area. No additional capacity is to be created for the development, nor are services required from the municipality.			

<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication 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>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The project entails upgrading existing electrical infrastructure used by the Municipality. The Extension of the Rammulotsi Township in Viljoenskroon is underway. According to the Integrated Development Plan of Fezile Dabi Municipality, the need for electricity in the new area is identified as one of the high priority needs of the community. This project is deemed an integral part of the development strategy for this area, which is aimed at improving the general standard of living.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>Not applicable.</p>			
<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>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The proposed activities will occur on areas that have already been affected by similar developments, except for the 132 kV transmission line from Viljoenskroon to the Marseilles switching station. This line will run close to agricultural land, but as close as possible to the road reserve. The poles or pylons will be sited such that they have the smallest possible impact on this land use.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The proposed transmission lines would traverse agricultural land, wetlands, and several private properties. As far as possible the transmission lines would follow existing servitudes which are already disturbed. High environmental sensitivity areas would also be avoided as best as possible. Where the transmission lines traverse agricultural land, the land can continue to be used for agriculture once the lines are constructed, due to the relatively small disturbance footprint of the towers. The agricultural potential of the land is not anticipated to be impacted on and/ or reduced significantly. In addition, given that the Vierfontein substation and associated proposed transmission line corridors are located within a landscape that already contains a well-established and extensive transmission network, the current proposal would not be out of place in the existing landscape.</p>			

10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
<p>Overall, the negative impacts for the proposed development are of Low (-) significance without mitigation and of Very Low significance with mitigation. Therefore, the proposed development's impacts with mitigation measures are reduced and are considered to be acceptable.</p> <p>The no-go alternative, which represents the status quo, would have a neutral significance rating since the proposed project would not be realised.</p>			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
<p>The proposed project activities would not be new to the area, as there are established transmission lines and electrical sub-/switching stations in the project areas.</p>			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
<p>No juristic or natural person's rights will be adversely affected, as land use agreements will be entered into between Eskom and the affected and relevant landowners. All affected landowners have been notified of the proposed project.</p>			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
<p>The proposed substations will occur in areas that have similar developments, and will not occur in such a manner that it will extend the urban edge. The transmission lines do not apply here as they may always extend beyond the urban edge of any settlement.</p>			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPs)?	YES	NO	Please explain
<p>The proposed activities do not form part of the 17 SIPs, as Eskom activities do not form part of SIPs as yet.</p>			
15. What will the benefits be to society in general and to the local communities?	Please explain		
<p>Increased and stable electricity provision.</p>			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
<p>Not applicable.</p>			
17. How does the project fit into the National Development Plan for 2030?	Please explain		
<p>The project will enhance one of the "elements of a decent standard of living," namely "housing, water, sanitation, and electricity." It will also assist in resolving maintenance and refurbishment backlogs in terms of electricity distribution infrastructure.</p>			

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 purpose of section 23 of NEMA is to promote the application of appropriate management tools in order to ensure the integrated environmental management of activities. The table below lists the general objectives of integrated management and provides a motivation as to how the proposed development has taken the objectives into account.

<u>Section 23(2) of NEMA: The general objective of integrated environmental management is to:</u>	<u>Description as to how the proposed development has taken these general objectives into account.</u>
(a) promote the integration of the principles of environmental management set out in section 2 of NEMA into the making of all decisions which may have a significant effect on the environment;	The underlying principle of this Basic Assessment process is to ensure that the development is socially, environmentally, and economically sustainable. This has guided the assessment of impacts of the project by specialists to ensure that the project will be undertaken in an environmentally responsible manner. In recognition that social responsibility needs to be actively developed, a public participation process has been implemented. This process is being undertaken in such a manner to promote active participation and foster a clear understanding of the project and transparent sharing of information.
(b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;	Section D of this Basic Assessment Report (BAR) includes the list of potential impacts associated with this project. Each impact was evaluated to determine the significance of the impact and mitigation measures have been proposed to reduce negative impacts and to enhance positive impacts.
(c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;	Specialist studies were commissioned to ensure that specific impacts are adequately assessed and appropriate mitigation measures are proposed. Studies that were conducted include a Heritage Impact Assessment, Wetland Delineation, and Ecological & Soil Impact Assessment.
(d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;	The public participation process is in accordance with regulation 41(2) and 42 of GN R.982. The following activities have been undertaken to date: <ul style="list-style-type: none"> • Advertisements were placed in the Parys Gazette newspaper on 15 September 2016. • Site notices were placed in various locations on and around site during the initial PPP on 15 August 2016.

	<ul style="list-style-type: none"> • Notification letters were sent to affected and neighbouring property owners on 7 November 2016, and commenting authorities on 23 November 2016.
(e) ensure the consideration of environmental attributes in management and decision making which may have a significant effect on the environment; and	An Environmental Management Program (EMPr) has been drafted to include the recommendations from the respective specialists to guide the construction phase in an environmentally and socially sound manner. Refer to Appendix G .
(f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.	Recommendations and mitigations presented in the EMPr will minimise the disturbance to both the biophysical and socio-economic environments. Where negative impacts are unavoidable, strict management and rehabilitation is recommended to minimise the potential negative impacts.
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
<p>The philosophy of Sustainable Development underpins the requirements of NEMA and the consideration of environmental impacts. To achieve Sustainable Development it is important to find the balance between the competing demands for resources from the Economic system, the Social system, and the Ecological system.</p> <p>Chapter 1 of NEMA outlines principles of Sustainable Development which it states are applicable to the "actions of all organs of states that may significantly affect the environment". These principles are seen as governing the intent and underlying philosophy of the Act and therefore must be considered in the decision regarding whether or not to authorise an activity which has triggered an EIA process.</p>	
<u>NEMA Sustainability Principle</u>	<u>Consideration for this proposed activity and BA Process</u>
<p>(1) The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and-</p> <p>a. Shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discriminations;</p> <p>b. Serve as the general framework within which environmental management and implementation plans must be formulated;</p> <p>c. Serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act; or any statute provision concerning the protection of the environment;</p>	<p>All principles must be considered in the application and consideration for authorisation.</p> <p>The underlying principle of this Basic Assessment process is to ensure that the development is socially, environmentally, and economically sustainable. This has guided the assessment of impacts of the project to ensure that the project will be undertaken in an environmentally responsible manner. In recognition that social responsibility needs to be actively developed, a PPP has been undertaken. This process was undertaken in such a manner as to promote active participation and foster a clear understanding of the project and transparent sharing of information. Refer to Section C for further details.</p>

<p>d. Serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and</p> <p>e. Guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection of management of the environment.</p>	
<p>(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.</p>	<p>This Basic Assessment process has considered both the natural and socio-economic environment and the mitigation measures provided respond to this principle.</p>
<p>(3) Development must be socially, environmental and economically sustainable.</p>	<p>The proposed project would facilitate economic sustainability through the maintenance of basic service infrastructure. Social investment would also be encouraged through temporary job creation within the Moghaka Local Municipality.</p>
<p>(4) (a) Sustainable development requires the consideration of all relevant factors including the following:</p> <p>i. That the disturbance of ecosystems and loss of biological diversity are avoided, or where they cannot be altogether avoided, are minimised and remedied;</p>	<p>Disturbance of the ecosystem and loss of biological diversity has been minimised through design measures, route determination, future micro-siting, and proposed mitigations as described in the EMPr.</p>
<p>ii. That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;</p>	<p>Pollution associated with the construction phase would be limited by strict adherence to the EMPr. The operational phase would include limited maintenance to the transmission lines and substations, managed by the Eskom's Standard Environmental Practices and policies/ procedures, or that of the municipality, where applicable.</p>
<p>iii. That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;</p>	<p>The impact on heritage resources was investigated by a heritage specialist, Vhufa Hashu Heritage Consultants. Mitigation measures and recommendations are included in this assessment and the associated EMPr in to protect the significant heritage sites.</p>
<p>iv. That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;</p>	<p>A minimal amount of construction waste would be generated during the construction phase. Waste would be disposed of by the contractor into a licenced municipal waste stream. No waste is foreseen during the operational life.</p>

v. That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;	No non-renewable natural resources will be used as part of this project.
vi. That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised. and equitable, and takes into account the consequences of the depletion of the resource;	Mitigation measures have been prescribed and included in the EMPr to ensure the responsible use and protection of the natural resources occurring in the project area.
vii. That a risk-averse and cautious approach is applied which takes into account the limits of current knowledge about the consequences of decisions and actions; and	Limitations and gaps in knowledge have been taken into account in the Basic Assessment process. The information provided in this BAR is considered to be sufficient for decision-making purposes, and where there is uncertainty with predictions, monitoring has been recommended.
viii. That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.	The Basic Assessment process has assessed impacts associated with this proposed project. Appropriate mitigation measures have been proposed for impacts which are deemed to have negative impacts.
(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.	The Basic Assessment process has been undertaken in accordance with the legal requirements as a fundamental guiding principle. The preferred alternatives of each of the project activities is considered to be the best environmental options. The specialists have assessed the areas potentially affected by all project activities and no fatal flaws were identified. All potential negative impacts can be mitigated to an acceptable level.
(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.	The Basic Assessment process, including the PPP, has been undertaken in a manner to ensure that impacts are assessed fairly using scientifically acceptable methodology. This project is a long-term investment for the Moqhaka Local Municipality to ensure reliable basic electrical services to the local community.
(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing must be pursued and special measures may be taken to ensure access	Environmental resources such as air, water, soil and vegetation have been considered and avoidance or mitigation measures provided, to ensure that none of these resources are

thereto by categories of persons disadvantaged by unfair discrimination.	compromised and thereby limiting access thereto.
(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.	The Basic Assessment process has considered the environmental, health and safety consequences of the development through the construction and operational life of the project. Aspects of the decommissioning of the proposed project activities have been touched on in the EMPr and would need to be subject to further investigation in terms of the relevant environmental legislation at the time.
(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation by vulnerable and disadvantaged persons must be ensured.	Public participation by all Interested and Affected Parties (I&APs) has been promoted and opportunities for engagement provided during the Basic Assessment process.
(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.	The Basic Assessment process has taken cognisance of all interests, needs and values espoused by all I&APs. All comments and concerns raised by I&APs during the public participation process will be responded to in a Comments and Response Report, which will form part of the final BAR.
(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.	Public participation by all I&APs has been promoted during the Basic Assessment process. Refer to Section C of this report.
(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.	This Basic Assessment process has considered both the natural and socio-economic environment and mitigation measures provided.
(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.	The project area is subject to both the health and safety requirements of the Occupational Health and Safety (OHS) Act, No. 181 of 1993.
(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.	The Basic Assessment process has been thoroughly documented and all relevant information known to the Environmental Assessment Practitioner (EAP), as well as

	written comments received by I&APs, will be included in the final report for consideration by the authorities.
(l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.	The relevant authorities have been notified of the project and provided opportunity to comment. This authority process has been documented in the BAR.
(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.	The relevant authorities have been notified of the project and provided opportunity to comment. All comments received from the various organs of state will be included in the Comments and Responses Report. To date, no issues have been raised by the relevant authorities regarding potential conflicts of interest.
(n) Global and international responsibilities relating to the environment must be discharged in the national interest.	Global and international requirements have been and will be taken into account where applicable, keeping in mind that the distribution of electricity to ensure stable water supply is of national interest.
(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.	The impacts are documented in the Basic Assessment process to inform decision-makers regarding the potential impacts of the proposed project, so that an informed decision can be taken in this regard.
(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage, or adverse health effects must be paid for those responsible for harming the environment.	The mitigation measures recommended to minimise negative impacts and enhance positive ones are for implementation and therefore for the cost of the proponent.
(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.	Public participation by all I&APs has been promoted and opportunities for engagement have been provided during the Basic Assessment process. Refer to Section C for further details.
(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.	The proposed activity's potential impacts on the wetland and primary grassland areas within the corridor in which it falls, were taken into account during the ecological specialist assessment and mitigation measures recommended. Refer to the terrestrial ecology and wetland specialist studies by Doug McCulloch (Aurecon, 2017) in Appendix D .

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1.1.11 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
The Republic of South Africa Constitution Act (Act No. 108 of 1996) ("the Constitution")	The environmental right contained in Section 24 of the Constitution provides that everyone is entitled to an environment that is not harmful to his or her well-being.	The Constitutional Court	1996
National Environmental Management Act (Act No. 107 of 1998) (NEMA)	The applicant has the responsibility to ensure that the proposed activity and EIA process conform to the principles of NEMA. In developing the EIA process, Aurecon has been cognisant of this need, and accordingly the EIA process has been undertaken in terms of NEMA and the EIA Regulations ² . Several listed activities in these regulations, are triggered, as indicated in Section 12, thus requiring a Basic Assessment Process.	Department of Environmental Affairs (DEA)	1998
Environmental Impact Assessment Regulations (Government Notice no. R. 983)	The proposed activities are listed activities.	DEA	2014
National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEM: BA)	The objective of the NEM: BA is to manage and conserve biological diversity and resources in a sustainable manner. An ecological impact assessment, comprising a wetland assessment, floral assessment and faunal assessment, has been undertaken to determine if any listed species are located within the proposed project footprint.	DEA	2004
National Water Act (Act No. 36 of 1998) (NWA)	The proposed project requires a Water Use Licence due to its potential location within 32 m of a watercourse.	Department of Water and Sanitation (DWS)	1998
National Heritage Resources Act (Act No. 25 of 1999) (NHRA)	As the proposed 33 kV line exceeds 300 m in length, a full Heritage Impact Assessment (HIA) has been undertaken.	South African Heritage Resources Agency (SAHRA)	1999

1.1.12 WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES NO

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

3 m³

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

A minimal amount of litter might be generated by the construction staff. The waste generated from site will be fed into the municipal waste stream after having been removed from site by the contractor.

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

Viljoenskroon landfill site.

Will the activity produce solid waste during its operational phase?

YES

NO

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

Minimal waste would be generated during the operational phase. The waste could result from, e.g. replacement of isolators, and would only occur during maintenance events.

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

The waste generated on site during maintenance events will be fed into the municipal waste stream after having been removed from site by the contractor.

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

Viljoenskroon landfill site.

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

N/A

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

Can any part of the solid waste be classified as hazardous in terms of the 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?

N/A m³

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

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:

N/A

Contact person:

N/A

Postal address:

N/A

Postal code:

N/A

Telephone:

N/A

Cell:

N/A

E-mail:

N/A

Fax:

N/A

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

N/A – No waste water will be generated.

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? N/A

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:

N/A – No emissions will be released into the atmosphere

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. N/A

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:

Minor and temporary noise generation by construction vehicles, operation of machinery, and site staff would be limited to the construction phase. Although construction is anticipated to occur during working hours and noise is expected to be localised, mitigation measures are discussed in the EMP (Appendix G) to limit the noise generated during the construction phase.

1.1.13 WATER USE

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

Water may be used during the project, mainly for concrete mixing. Water from the Viljoenskroon municipal substation will be used by the Contractor. It is estimated that approximately 10,000 litres of water from this source will be used per month. No water will be extracted from groundwater, rivers, streams, dams, lakes, or any other natural features.

<input checked="" type="checkbox"/> Municipal	<input type="checkbox"/> Water board	<input type="checkbox"/> Groundwater	<input type="checkbox"/> River, stream, dam or lake	<input type="checkbox"/> Other	<input type="checkbox"/> The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: N/A

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

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

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

Proof of the WULA submission will be attached in the Final BAR.

1.1.14 ENERGY EFFICIENCY

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

Not applicable due to the nature of the activity, which is facilitating the distribution of electricity. Electricity for construction purposes (if needed) will be obtained from mobile diesel generators.

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

Not applicable.

1.2 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):

N/A

Due to the homogenous nature in topography and environment of the project area, no duplication is necessary.

- 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	Free State	
District Municipality	Fezile Dabi District Municipality	
Local Municipality	Moghaka Local Municipality	
Ward Number(s)	23 and 25	
Farm name and number	Portion number	SG Code
Groenfontein 313	17	F03600000000031300017
Groenfontein 313	39	F03600000000031300039
Grootrietpan 451	4	F03600000000045100004
Grootrietpan 451	1	F03600000000045100001
Grootrietpan 451	2	F03600000000045100002
Grootrietpan 451	3	F03600000000045100003
Jagters Spruit 73	0	F03600000000007300000
Jagtershoek 362	0	F03600000000036200000
Jagtershoek 77	0	F03600000000007700000
Jagtershoek 77	3	F03600000000007700003
Marseilles 24	2	F03600000000002400002
Tevreden 205	5	F03600000000020500005
Tevreden 205	3	F03600000000020500003
Tevreden 205	4	F03600000000020500004
Viljoenskroon Townlands Streets and Squares 411	0	F03600000000041100000
Rendevous 398	6	F03600000000039800006
Rendevous 398	0	F03600000000039800000
Lizetta 87	0	F03600000000008700000

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, urban

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

1.2.1 GRADIENT OF THE SITE

Indicate the general gradient of the site.

For all activities and their alternatives:

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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1.2.2 LOCATION IN LANDSCAPE

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

2.1 Ridgeline

2.2 Plateau

2.3 Side slope of hill/mountain

2.10 At sea

☐
☐
☐
☐

2.4 Closed valley

2.5 Open valley

2.6 Plain

☐
☐
☒

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

☐
☐
☐

1.2.3 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

For the 132 kV line from Viljoenskroon to the proposed Marseilles switching station:

Alternative S1:

Alternative S2 (if any):

Alternative S3 (if any): N/A

Shallow water table (less than 1.5m deep)

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

Unstable rocky slopes or steep slopes with loose soil

Dispersive soils (soils that dissolve in water)

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

BASIC ASSESSMENT REPORT

Soils with high clay content (clay fraction more than 40%)
Any other unstable soil or geological feature
An area sensitive to erosion

YES	NO
YES	NO
YES	NO

YES	NO
YES	NO
YES	NO

YES	NO
YES	NO
YES	NO

For the new Vierfontein line:

Shallow water table (less than 1.5m deep)
Dolomite, sinkhole or doline areas
Seasonally wet soils (often close to water bodies)
Unstable rocky slopes or steep slopes with loose soil
Dispersive soils (soils that dissolve in water)
Soils with high clay content (clay fraction more than 40%)
Any other unstable soil or geological feature
An area sensitive to erosion

Alternative S1:

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

Alternative S2 (if any): N/A

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

Alternative S3 (if any): N/A

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

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.

1.2.4 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.

1.2.5 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.

The powerline corridor intersects with ten wetland hydrogeomorphic (HGM) units. Three have been identified as being in a good ecological state, and are of high ecological importance and sensitivity. The remaining wetlands are in poor to moderate health, with low to moderate ecological importance. Please refer to **Appendix D** for the Wetland Assessment report.

1.2.6 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
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:

N/A

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:

N/A

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:

N/A

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.

1.2.7 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	
	<ul style="list-style-type: none">• A historical building (more than 60 years old) is located at the Senwesco railway station.• Four isolated graves are located on the farm Grootrietpan.	

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:

As above. Refer to **Appendix D** for the Specialist Report.

Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO
If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.		

1.2.8 SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

All information contained in this section (8 (a)) was obtained from StatsSA (2011).

Level of unemployment:

The unemployment rate among economically active (employed or unemployed but looking for work) citizens in the Moghaka Local Municipality (MLM) is 35.2%.

Economic profile of local municipality:

Employment status	Number
Employed	36 040
Unemployed	19 554
Discouraged work seeker	3 933
Not economically active	47 141
Income	Percentage
No income	8.4%
R1 - R4 800	5%

R4 801 - R9 600	7.4%
R9 601 - R19 600	22.7%
R19 601 - R38 200	23.9%
R38 201 - R76 4000	13.9%
R76 401 - R153 800	8.8%
R153 801 - R307 600	6%
R307 601 - R614 400	2.7%
R614 001 - R1 228 800	0.6%
R1 228 801 - R2 457 600	0.2%
R2 457 601+	0.2%

Level of education:

Group	Percentage
No Schooling	2.9%
Some Primary	40.7%
Completed Primary	5.9%
Some Secondary	31.1%
Completed Secondary	12.3%
Higher Education	1.3%
Not Applicable	5.8%

b) Socio-economic value of the activity

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

R 25 260 337.00

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

Unknown

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?

No construction employment opportunities are expected to be created, as this short project can be completed by current Eskom staff.

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

R - 0

What percentage of this will accrue to previously disadvantaged individuals?

0 %

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

Newly built infrastructure will be operated and maintained by current Eskom staff.

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

0

What percentage of this will accrue to previously disadvantaged individuals?

0%

1.2.9 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.

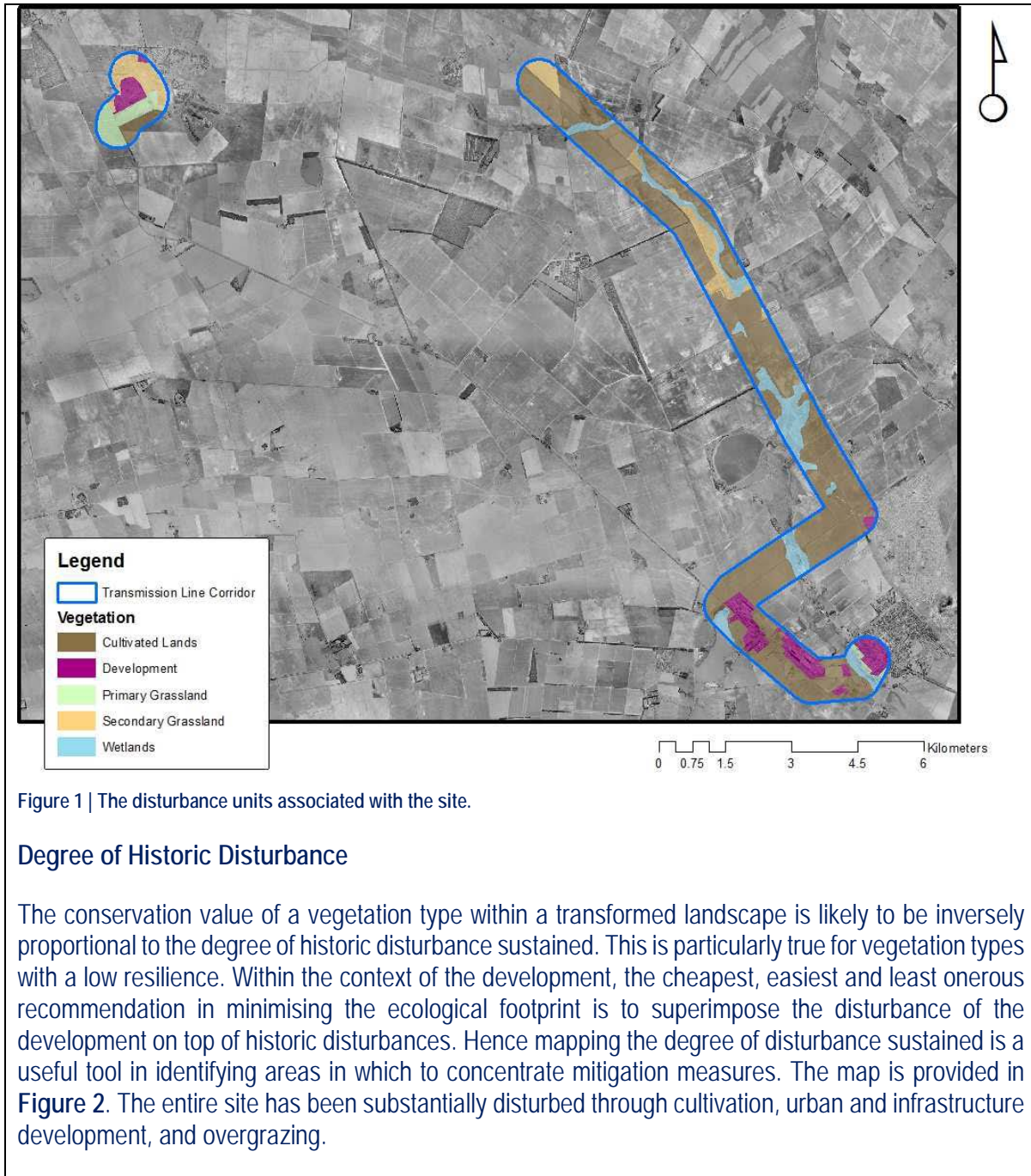
- a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

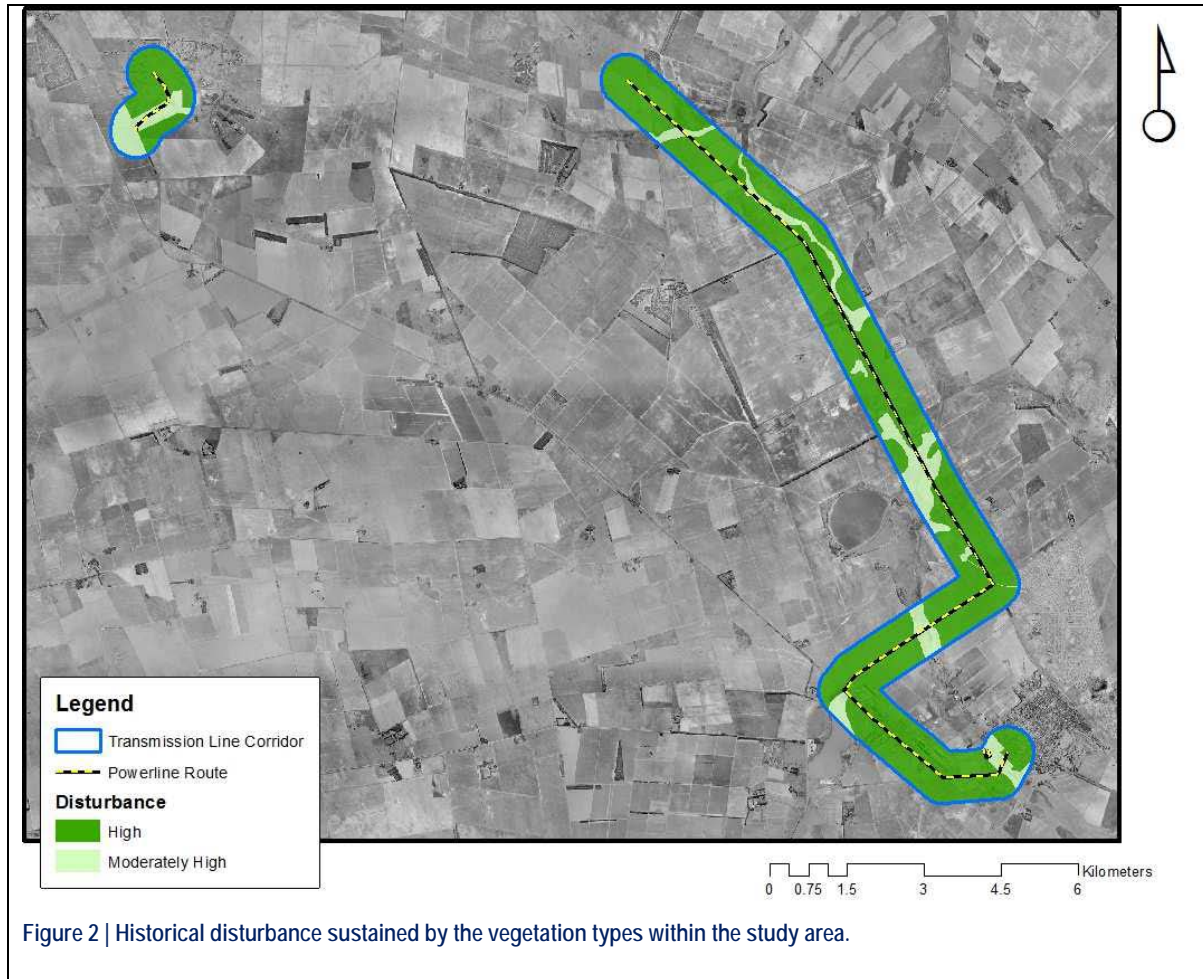
Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	N/A

- 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	-%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	<p>Primary grassland</p> <p>Most of the primary grassland within the study area occurs within the Vierfontein section. The main impacts sustained by the extant primary grasslands are associated with the transformation of the adjacent blocks of land to cultivation and development. The resulting fragmentation of ever-smaller blocks has the following consequences:</p> <ul style="list-style-type: none"> • The influence of edge effects is amplified as grassland blocks get smaller; • The blocks become more isolated, resulting in a reduction in the transfer of genetic material between areas; • The key ecological processes of fire and grazing by smaller herbivores is disrupted. <p>The primary grassland areas show evidence of degradation in the form of tussocking, compacted topsoil, a poor diversity of grass species and lower diversity in growth forms than would be expected. The degree of historic physical disturbance to the primary grassland areas is considered to be Moderately High.</p>

		<p>Wetlands</p> <p>The degree of historic disturbance experienced by the wetland habitat is Moderate to Moderately High. The main disturbances are road crossings, cultivation, infilling, and overgrazing.</p>
Degraded (includes areas heavily invaded by alien plants)	8.41%	<p>Secondary grassland</p> <p>Secondary grassland refers to a grassland community that becomes established following a major physical disturbance to the original vegetation. Within the context of the development, the disturbance is mostly associated with the removal of the natural vegetation to make way for crops. The distribution of the secondary grassland community within the project area is dynamic, with lands left fallow as part of the crop rotation policy. This gives rise to short-lived plant communities of ruderal and pioneer species. The level of historic disturbance sustained by secondary grassland is High, because it is an indicator of the complete removal of the original, primary vegetation.</p>
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	76.37%	<p>Formal development</p> <p>Approximately 9% of the project area is composed of urban development, with light industrial factories being a prominent feature. Urban development is generally associated with the complete removal of indigenous vegetation communities, and its subsequent replacement, primarily with hardened surfaces, but to a lesser extent with indigenous and exotic lawns and garden plants. The nature of urban development implies a High level of historic disturbance.</p> <p>Commercial crop cultivation</p> <p>Commercial maize cultivation represents the most important land use within the route corridor. A feature of the maize lands is the low degree of biodiversity, with a handful of plant species recorded. The complete removal of indigenous vegetation associated with establishing maize lands constitutes a High degree of physical disturbance.</p>
The disturbance units associated with the site corridor and area assessed are shown in Figure 1 :		





- c) Complete the table to indicate:
- the type of vegetation, including its ecosystem status, present on the site; and
 - 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 unchannelled 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)

According to Mucina and Rutherford (2006), the original vegetation covering the study area was **Vaal-Vet Sandy Grassland**, part of the Dry Highveld Grassland complex of vegetation types (Figure 2). The vegetation types consists of short, low-tussock grasslands of which *Themeda triandra* is an important constituent. The landscape is an undulating plain with irregular hills. There is a prominent karroid shrub element. The key indicator species are *T.triandra*, *Aristida congesta*, *Elionurus muticus*, *Eragrostis chloromelas*, *E.plana*, *Brachiaria serrata*, *Tragus berteronianus* and *Heteropogon contortus*.

This vegetation type is considered to be **Endangered** and hardly protected. The conservation target is 24%, and scarcely 0.3% of the area under primary vegetation is formally protected. Approximately 63% has been transformed by crop cultivation, and the remaining intact areas are under substantial grazing pressure from cattle and sheep.

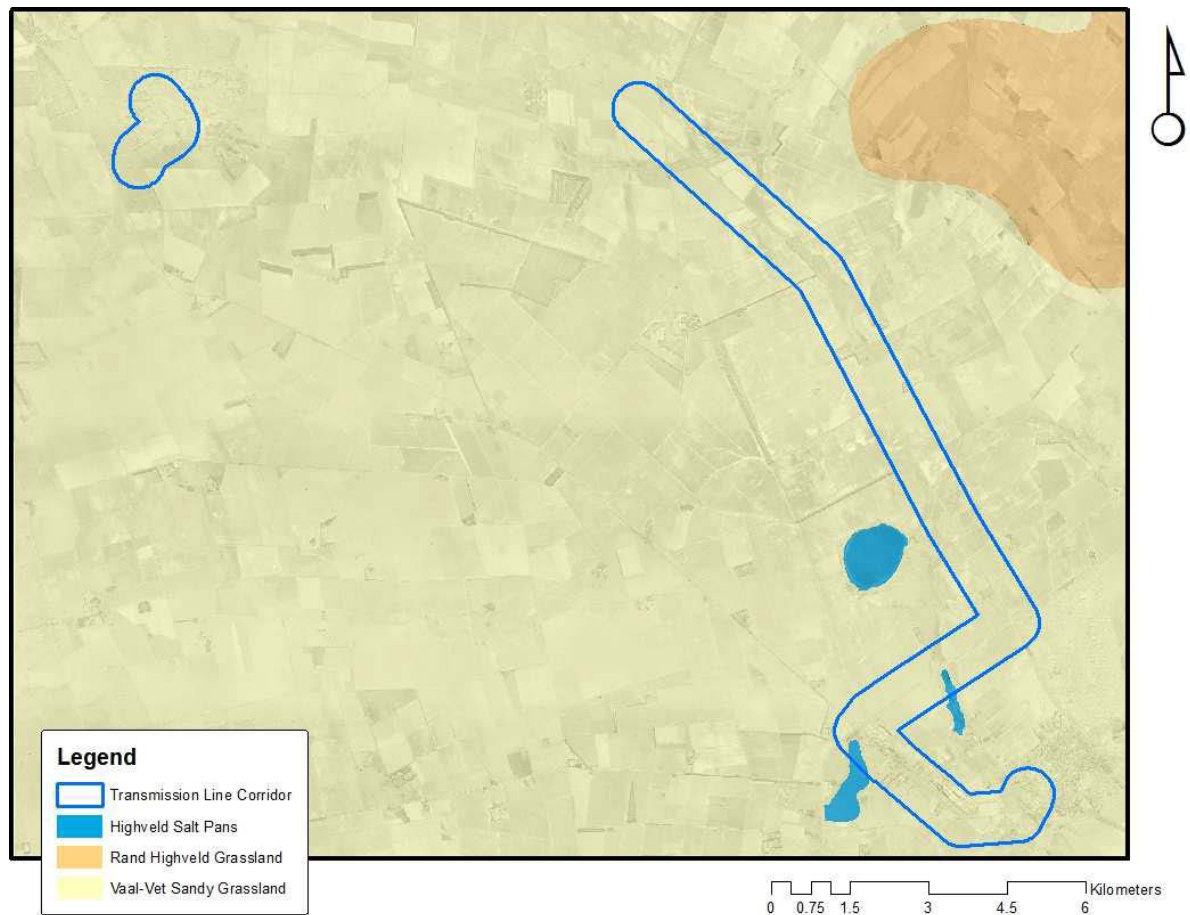


Figure 3 | Original vegetation types for the affected site and corridor.

Ecological Sensitivity

In the dry Highveld grasslands of the South African hinterland the dominant ecological driver is arguably the low rainfall. This governs the leaching patterns of nutrients from the soil, the consequent palatability of the grass sward, and the accumulation of biomass that acts as a fuel load for fire. The plant community is dominated by genotypes that invest resources in the production of viable seed to carry the species through periods of drought. The plants have also adapted to a pattern of defoliation throughout the year, and infrequent, low-intensity fires. The vegetation is hence able to recover following severe disturbances. This is offset by the reliance of the vegetation on relatively stable, consistent topsoil textural and mineral conditions. These considerations support the ultimate conclusion that the ecological sensitivity of the primary grassland ecosystem is moderately high (Figure 4).

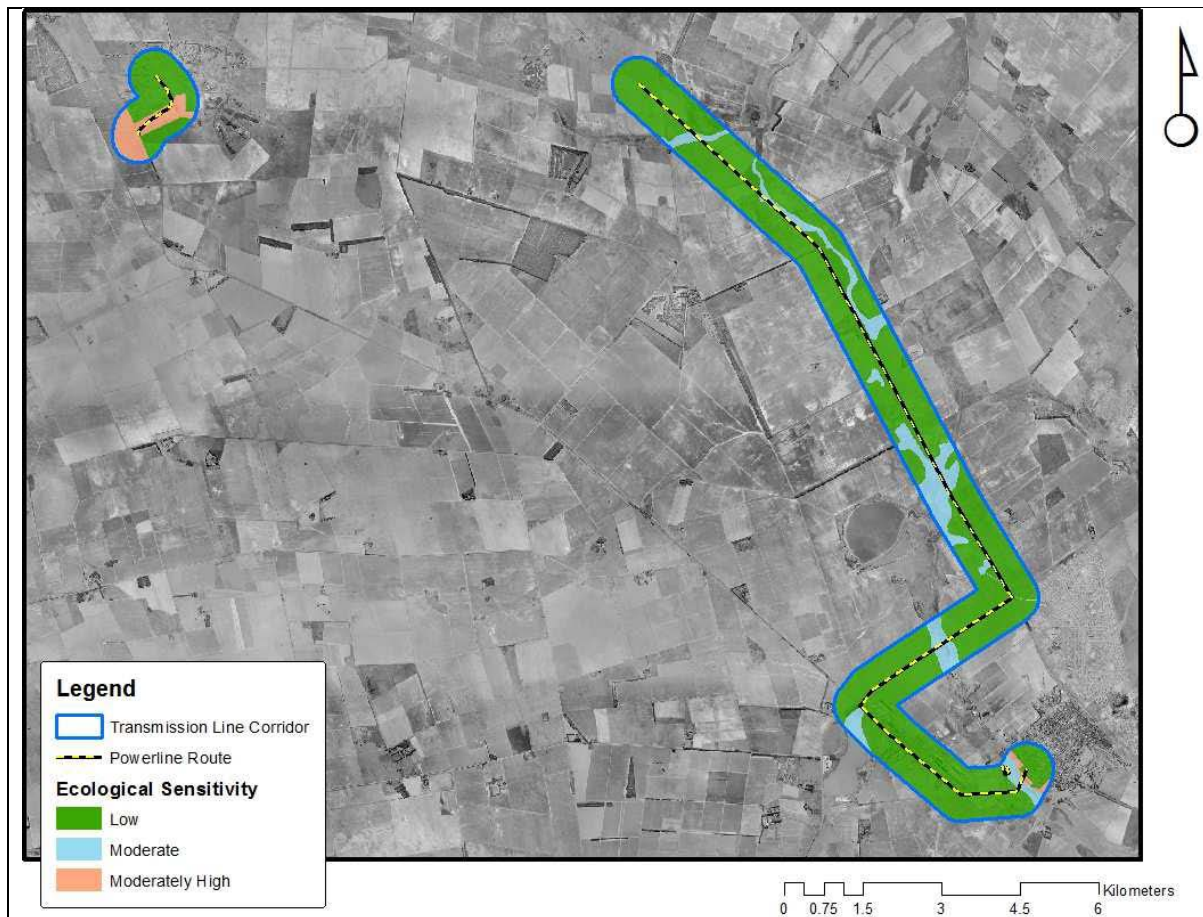


Figure 4 | Ecological sensitivity of the vegetation types within the study area.

Biodiversity Value

Considering the severe disturbance sustained by the respective vegetation types, the relatively low species richness encountered, the ruderal and exotic nature of the species present, and the low level of local habitat heterogeneity evident, the estimated poor biodiversity value across the site is represented in **Figure 5**. The exception is the wetland habitat, although this has been compromised by the encroachment of cultivated lands into the ecotone of the temporary wetland zone.

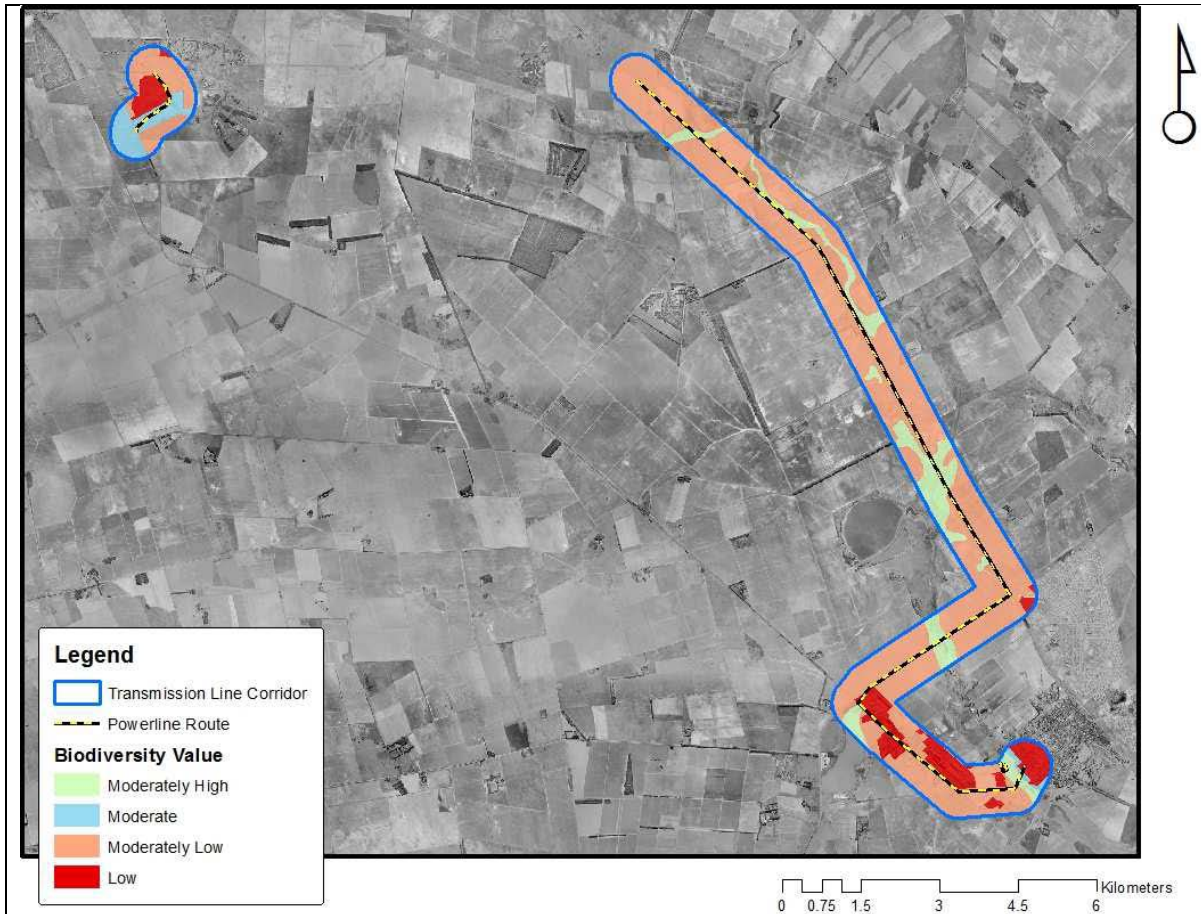


Figure 5 | Biodiversity value of the vegetation types within the study area.

Conservation Priority

The conservation value of the various disturbance units is shown in **Figure 6**. Most of the vegetation is secondary, resilient, ubiquitous in the landscape and easy to replicate. They are of low conservation priority. The wetlands and primary grassland areas are areas of conservation significance within the study area because they: offer refuge for remnant populations of terrestrial flora and fauna; may serve as source areas for future recolonization should the adjacent land use change; contribute the most to promoting habitat heterogeneity in the landscape; may support species of conservation importance; and improve ecological connectivity across the landscape. A summary of the results of the evaluation of the various vegetation types is given in **Table 1**.



Figure 6 | Conservation priority of the vegetation types within the study area.

Table 1 | Summary of Vegetation Unit evaluations

Vegetation Unit	Disturbance	Ecological Sensitivity	Biodiversity Value	Conservation Priority
Wetlands	Moderately High	Moderate	Moderately High	High
Development	High	Low	Low	Low
Crop Cultivation	High	Low	Moderately Low	Low
Primary Grassland	Moderately High	Moderately High	Moderate	High
Secondary Grassland	High	Low	Moderately Low	Low

1.3 SECTION C: PUBLIC PARTICIPATION

1.3.1 ADVERTISEMENT AND NOTICE

Publication name	Parys Gazette	
Date published	15 September 2016	
Site notice position	Latitude	Longitude
	27° 10' 52.2" S	26° 56' 58" E
	27° 11' 17.47" S	26° 56' 59.86" E
	27° 11' 41.01" S	26° 57' 4.54" E
	27° 11' 44.4" S	26° 57' 14.03" E
	27° 10' 54.98" S	26° 57' 2.2" E
	27° 12' 9.01" S	26° 57' 12.9" E
	27° 12' 57.85" S	26° 56' 1.56" E
	27° 12' 3.85" S	26° 55' 47.58" E
	27° 5' 52.34" S	26° 52' 24.03" E
	27° 10' 57.23" S	26° 56' 24.65" E
	27° 12' 8.65" S	26° 54' 44.26" E
	27° 6' 4.39" S	26° 46' 17.23" E
	27° 5' 51.03" S	26° 46' 42.29" E
	27° 5' 35.83" S	26° 46' 28.88" E
	27° 5' 34.35" S	26° 46' 31" E
Date placed	15 August 2016	

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

Proof of the newspaper advertisement placed in the Parys Gazette, an exemplar of the site notice, and photographs of the site notices, where placed, are provided in **Appendix E1**.

1.3.2 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.

- The PPP commenced with the compilation of an I&AP database from title deed searches of affected and neighbouring landowners. Applicable Organs of State and authorities were identified and added to the I&AP database.
- A Background Information Document (BID) was prepared, and, along written letters of notification, distributed to the various I&APs via registered mail or emails. Where necessary, phone calls were made to I&APs to obtain the correct contact details.
- One party requested that these documents be made available in Afrikaans. Proof of the Afrikaans documents and the associated mail is provided in **Appendix E2**.

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)
Please refer to Appendix E5 for a list of key stakeholders and I&APs.		

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.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
A request for an Afrikaans BID and written notification was lodged.	The required documents were translated and sent to the I&AP in question.

1.3.3 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 E3.

1.3.4 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
Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs	Ms M. Khosana	086 110 2185		mkhosana@detea.fs.gov.za	Private Bag x 20801, Bloemfontein, 9300
Fezile Dabi District Municipality		016 970 8600	016 970 8733	info@feziledabi.gov.za	PO Box 10, Sasolburg, 1947
Moqhaka Local Municipality (MLM)		056 343 9400 / 056 216 9911		madelaine@moqhaka.gov.za	Deneysen Street, Viljoenskroon, 9520
Ward Councillor 23	Mr J Baba	083 843 9717		jbaba@omnia.co.za	

Free State Department of Water and Sanitation	Dr Tseliso Ntuli	051 405 9000		ntilit@dws.gov.za	PO Box 528, Bloemfontein, 9300
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Include proof that the Authorities and Organs of State received written notification of the proposed activities as Appendix E4.

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

1.3.5 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 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.

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

1.4 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.

1.4.1 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
1. Construction of the new Marseilles Switching Station and the new Vierfontein Substation			
Alternative 1 (preferred alternative)			
Site clearance and removal of vegetation and dumping of materials outside designated areas	Direct impacts: Loss of floral and faunal species of conservation concern	Low (-)	<ul style="list-style-type: none"> • A walkdown of the proposed transmission line corridors must be performed prior to construction to identify areas where bird collisions with powerlines are likely. Faunal SCC potentially occurring in corridor areas include: <ul style="list-style-type: none"> ○ Grass owl; ○ Greater and Lesser Flaming; ○ Cliff Swallow; and ○ Cape Sparrow. • Disturbance of Species of Conservation Concern must be avoided as far as possible. • Disturbance to important avifaunal habitat, such as wetlands, must be minimised. • A rescue and relocation plan must be implemented and undertaken by a qualified specialist, if a route change within the corridor is not possible and no option other than encroaching upon the floral Species of Conservation Concern habitat exists.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • Prohibit the collection of plant material for medicinal purposes. • Implementation of edge effect control such as alien floral control must be undertaken to ensure no further degradation outside of the proposed footprint area. • Should it not be possible to avoid Species of Conservation Concern or other protected plant species through judicious placement of pylons foundations through the proposed walkdown assessments, the following shall be ensured: <ul style="list-style-type: none"> ○ If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas; ○ All rescue and relocation plans shall be overseen by a suitably qualified specialist; and ○ Species of Conservation Concern or other protected plant species that occur close to the proposed pylons positions or access routes must be fenced prior to construction. • Bird flappers must be installed on all powerlines crossing the wetlands and where powerlines are close to or within the ridges and secondary grasslands. • Ensure that as far as possible all development infrastructure is placed outside of sensitive areas.
	<i>Indirect impacts:</i> Loss of floral and faunal habitat	Low (-)	<ul style="list-style-type: none"> • Avoid disturbance of sensitive habitat units as far as possible, particularly Wetland Habitat Units. • It must be ensured that a rescue and relocation plan is implemented prior to construction, if it is impossible to avoid placement of infrastructure within these sensitive habitats, and the disturbance footprint must be minimised. • Any disturbed areas must be rehabilitated after construction and implementation of the infrastructure and prior to operation. • Ensure that the proposed development footprint area remains as small as possible. • Demarcate the construction footprint, and ensure that all construction activities remain within this footprint. • All possible steps must be taken to ensure that powerline crossings do not encroach upon the wetland temporary zone boundary and associated buffer. No pylons shall be placed inside wetlands, no excavations shall be allowed in wetlands and no roads

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p>shall be constructed through wetlands. The only allowable access of construction vehicles to wetlands on a limited basis should be during stringing of conductors.</p> <ul style="list-style-type: none"> • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • Ripping and profiling of all soils compacted as a result of construction activities falling outside of the footprint area shall be undertaken. • No trapping or hunting of fauna shall take place.
	<p>Cumulative impacts: Loss of floral and faunal diversity and ecological intactness</p>	Low (-)	<ul style="list-style-type: none"> • Ensure that the proposed development footprint area remains as small as possible. • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • A speed limit of 40km/h shall be implemented on all roads running through and accessing the study area, to minimise the risk of vehicle collisions with faunal species. • Prohibit the collection of plant material for firewood or for medicinal purposes. • Species specific and area specific eradication recommendations: <ul style="list-style-type: none"> ○ Care shall be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used; and ○ Footprint areas shall be kept as small as possible when removing alien plant species.
Movement of construction vehicles	<p>Direct impacts: Dust emissions</p>	Low (-)	<ul style="list-style-type: none"> • Dust suppression is to be conducted during construction or as complaints are received. • All soil stockpiles should be covered with hessian or sprayed with water. • Warning barricading should be placed around open trenches and should be suitable for high winds so that it is not blown away. • The Contractor is to take appropriate measures to minimise the generation of dust as a result of excavation works. Such measures include frequent spraying during low rainfall periods. • Speed limits must be enforced in all areas to reduce the generation of dust.
	Air pollution caused by vehicle emissions	Low (-)	<ul style="list-style-type: none"> • All machinery and equipment must be maintained in good working order, and fitted with approved and specified muffler systems. • All road vehicles to be roadworthy.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> All machinery and equipment shall be switched off when not in use.
	<i>Indirect impacts:</i> -		
	<i>Cumulative impacts:</i> Temporary increase in traffic	Low (-)	<ul style="list-style-type: none"> Access to privately owned land will be arranged with the various landowners along the alignment by the contractor. Adequate and appropriate traffic warning signage must be erected along transport routes and access roads where applicable. All trucks and vehicles removing spoil from the site must have load areas and must be covered by a tarpaulin (plastic/synthetic sheets/covers) to prevent rocks and spoil falling onto the road surfaces.
Increased anthropogenic activity	<i>Direct impacts:</i> Soil erosion	Very Low	<ul style="list-style-type: none"> The width of the construction footprint must be agreed upon by the ECO and the Engineer and as far as possible must be kept to a minimum. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil compaction	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Fences and security access must be maintained throughout the project. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil contamination	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Where possible and practical all maintenance of vehicles and equipment shall take place in a workshop area. During servicing of vehicles or equipment, a suitable drip tray shall be used to prevent spills onto the soil. Should emergency repairs be necessary outside of the designated area, drip trays or tarpaulins must be utilised to ensure the collection of the oil. The area for emergency repairs should be identified by ECO. Leaking equipment shall be repaired immediately or be removed from site to facilitate repair.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> All potentially hazardous and non-degradable waste shall be collected and removed to an appropriate registered waste site. The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site.
	<i>Indirect impacts:</i> -		
	<i>Cumulative impacts:</i> -		
Alternative 2 (and 3, for the Vierfontein Substation)			
Site clearance and removal of vegetation and dumping of materials outside designated areas	<i>Direct impacts:</i> Loss of floral and faunal species of conservation concern	Low (-)	<ul style="list-style-type: none"> A walkdown of the proposed transmission line corridors must be performed prior to construction to identify areas where bird collisions with powerlines are likely. Faunal SCC potentially occurring in corridor areas include: <ul style="list-style-type: none"> Grass owl; Greater and Lesser Flaming; Cliff Swallow; and Cape Sparrow. Disturbance of Species of Conservation Concern must be avoided as far as possible. Disturbance to important avifaunal habitat, such as wetlands, must be minimised. A rescue and relocation plan must be implemented and undertaken by a qualified specialist, if a route change within the corridor is not possible and no option other than encroaching upon the floral Species of Conservation Concern habitat exists. Prohibit the collection of plant material for medicinal purposes. Implementation of edge effect control such as alien floral control must be undertaken to ensure no further degradation outside of the proposed footprint area. Should it not be possible to avoid Species of Conservation Concern or other protected plant species through judicious placement of pylons foundations through the proposed walkdown assessments, the following shall be ensured: <ul style="list-style-type: none"> If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas;

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> ○ All rescue and relocation plans shall be overseen by a suitably qualified specialist; and ○ Species of Conservation Concern or other protected plant species that occur close to the proposed pylons positions or access routes must be fenced prior to construction. ● Bird flappers must be installed on all powerlines crossing the wetlands and where powerlines are close to or within the ridges and secondary grasslands. ● Ensure that as far as possible all development infrastructure is placed outside of sensitive areas.
	<i>Indirect impacts:</i> Loss of floral and faunal habitat	Low (-)	<ul style="list-style-type: none"> ● Avoid disturbance of sensitive habitat units as far as possible, particularly Wetland Habitat Units. ● It must be ensured that a rescue and relocation plan is implemented prior to construction, if it is impossible to avoid placement of infrastructure within these sensitive habitats, and the disturbance footprint must be minimised. ● Any disturbed areas must be rehabilitated after construction and implementation of the infrastructure and prior to operation. ● Ensure that the proposed development footprint area remains as small as possible. ● Demarcate the construction footprint, and ensure that all construction activities remain within this footprint. ● All possible steps must be taken to ensure that powerline crossings do not encroach upon the wetland temporary zone boundary and associated buffer. No pylons shall be placed inside wetlands, no excavations shall be allowed in wetlands and no roads shall be constructed through wetlands. The only allowable access of construction vehicles to wetlands on a limited basis should be during stringing of conductors. ● Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. ● Ripping and profiling of all soils compacted as a result of construction activities falling outside of the footprint area shall be undertaken. ● No trapping or hunting of fauna shall take place.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts: Loss of floral and faunal diversity and ecological intactness	Low (-)	<ul style="list-style-type: none"> • Ensure that the proposed development footprint area remains as small as possible. • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • A speed limit of 40km/h shall be implemented on all roads running through and accessing the study area, to minimise the risk of vehicle collisions with faunal species. • Prohibit the collection of plant material for firewood or for medicinal purposes. • Species specific and area specific eradication recommendations: <ul style="list-style-type: none"> ○ Care shall be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used; and ○ Footprint areas shall be kept as small as possible when removing alien plant species.
Movement of construction vehicles	Direct impacts: Dust emissions	Low (-)	<ul style="list-style-type: none"> • Dust suppression is to be conducted during construction or as complaints are received. • All soil stockpiles should be covered with hessian or sprayed with water. • Warning barricading should be placed around open trenches and should be suitable for high winds so that it is not blown away. • The Contractor is to take appropriate measures to minimise the generation of dust as a result of excavation works. Such measures include frequent spraying during low rainfall periods. Speed limits must be enforced in all areas to reduce the generation of dust.
	Air pollution caused by vehicle emissions	Low (-)	<ul style="list-style-type: none"> • All machinery and equipment must be maintained in good working order, and fitted with approved and specified muffler systems. • All road vehicles to be roadworthy. • All machinery and equipment shall be switched off when not in use.
	Indirect impacts: -		
	Cumulative impacts: Temporary increase in traffic	Low (-)	<ul style="list-style-type: none"> • Access to privately owned land will be arranged with the various landowners along the alignment by the contractor. • Adequate and appropriate traffic warning signage must be erected along transport routes and access roads where applicable.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			All trucks and vehicles removing spoil from the site must have load areas and must be covered by a tarpaulin (plastic/synthetic sheets/covers) to prevent rocks and spoil falling onto the road surfaces.
Increased anthropogenic activity	Direct impacts: Soil erosion	Very Low	<ul style="list-style-type: none"> The width of the construction footprint must be agreed upon by the ECO and the Engineer and as far as possible must be kept to a minimum. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil compaction	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Fences and security access must be maintained throughout the project. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil contamination	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Where possible and practical all maintenance of vehicles and equipment shall take place in a workshop area. During servicing of vehicles or equipment, a suitable drip tray shall be used to prevent spills onto the soil. Should emergency repairs be necessary outside of the designated area, drip trays or tarpaulins must be utilised to ensure the collection of the oil. The area for emergency repairs should be identified by ECO. Leaking equipment shall be repaired immediately or be removed from site to facilitate repair. All potentially hazardous and non-degradable waste shall be collected and removed to an appropriate registered waste site. The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site.
	Indirect impacts: -		

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts: -		
No-go option			
No project activities taking place.	Direct impacts: None of the above-mentioned environmental impacts.	Very Low	-
	Indirect impacts: None of the above-mentioned environmental impacts.	Very Low	-
	Cumulative impacts: None of the above-mentioned environmental impacts.	Very Low	-
	Social impact of a lack of basic infrastructure provision	High (-)	No mitigation measures are suggested for this potentially positive impact.

Activity	Impact summary	Significance	Proposed mitigation
2. Construction of the new 132 kV line from Viljoenskroon to the Marseilles Switching Station and the new Vierfontein Line			
Alternative 1 (preferred alternative)			
Site clearance and removal of vegetation and dumping	Direct impacts:	Low (-)	<ul style="list-style-type: none"> A walkdown of the proposed transmission line corridors must be performed prior to construction to identify areas where bird collisions with powerlines are likely. Faunal SCC potentially occurring in corridor areas include:

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
of materials outside designated areas	Loss of floral and faunal species of conservation concern		<ul style="list-style-type: none"> ○ Grass owl; ○ Greater and Lesser Flaming; ○ Cliff Swallow; and ○ Cape Sparrow. ● Disturbance of Species of Conservation Concern must be avoided as far as possible. ● Disturbance to important avifaunal habitat, such as wetlands, must be minimised. ● A rescue and relocation plan must be implemented and undertaken by a qualified specialist, if a route change within the corridor is not possible and no option other than encroaching upon the floral Species of Conservation Concern habitat exists. ● Prohibit the collection of plant material for medicinal purposes. ● Implementation of edge effect control such as alien floral control must be undertaken to ensure no further degradation outside of the proposed footprint area. ● Should it not be possible to avoid Species of Conservation Concern or other protected plant species through judicious placement of pylons foundations through the proposed walkdown assessments, the following shall be ensured: <ul style="list-style-type: none"> ○ If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas; ○ All rescue and relocation plans shall be overseen by a suitably qualified specialist; and ○ Species of Conservation Concern or other protected plant species that occur close to the proposed pylons positions or access routes must be fenced prior to construction. ● Bird flappers must be installed on all powerlines crossing the wetlands and where powerlines are close to or within the ridges and secondary grasslands. ● Ensure that as far as possible all development infrastructure is placed outside of sensitive areas.
	Changes to wetland ecological structure and	Low (-)	<ul style="list-style-type: none"> ● No support structures shall be constructed within the wetland areas. If at all possible all support structures shall be placed above the 1: 50 year flood line and above the 1:10 year flood line as a minimum.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	sociocultural service provision		<ul style="list-style-type: none"> • Limit the footprint area of the construction activities to what is absolutely essential in order to minimise environmental damage, especially where towers will encroach upon the wetland boundary. Construction vehicles must use existing roads where possible. • All building materials shall be kept out of the wetland areas as well as any active stream channels. • In any areas where disturbance of banks or wetland vegetation occurs, bank and bed profile shall be re-instated in such a way as reinstate predevelopment habitat conditions. • All waste and remaining building materials shall be removed from site on completion of construction. • No vehicles shall be allowed to indiscriminately drive through the wetland areas or within the active stream channels. • The wetland profile shall be re-instated in such a way as to prevent incision and erosion in all areas that may be disturbed. • The duration in which soils are exposed during construction activities shall remain as short as possible. • Concurrent rehabilitation is to take place as far as possible and footprint areas shall be minimised as far as possible. • Implement alien vegetation control program within the wetland areas. • Monitor all disturbed areas for erosion and incision. • Avoid unnecessary site clearing/vegetation clearing between towers as far as possible. • Tower footprints and rehabilitated construction areas must be monitored for erosion according to the monitoring programme recommended below. • Restrict construction to the drier winter months if possible to avoid sedimentation of wetland areas in the vicinity of the proposed development and to minimise the severity of disturbance of the wetland habitat and hydraulic function.
	<i>Indirect impacts:</i>	Low (-)	<ul style="list-style-type: none"> • Avoid disturbance of sensitive habitat units as far as possible, particularly Wetland Habitat Units.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Loss of floral and faunal habitat		<ul style="list-style-type: none"> • It must be ensured that a rescue and relocation plan is implemented prior to construction, if it is impossible to avoid placement of infrastructure within these sensitive habitats, and the disturbance footprint must be minimised. • Any disturbed areas must be rehabilitated after construction and implementation of the infrastructure and prior to operation. • Ensure that the proposed development footprint area remains as small as possible. • Demarcate the construction footprint, and ensure that all construction activities remain within this footprint. • All possible steps must be taken to ensure that powerline crossings do not encroach upon the wetland temporary zone boundary and associated buffer. No pylons shall be placed inside wetlands, no excavations shall be allowed in wetlands and no roads shall be constructed through wetlands. The only allowable access of construction vehicles to wetlands on a limited basis should be during stringing of conductors. • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • Ripping and profiling of all soils compacted as a result of construction activities falling outside of the footprint area shall be undertaken. • No trapping or hunting of fauna shall take place.
	Loss of wetland habitat and ecological intactness	Low (-)	<ul style="list-style-type: none"> • Avoid disturbance of sensitive habitat units as far as possible, particularly Wetland Habitat Units. • It must be ensured that a rescue and relocation plan is implemented prior to construction, if it is impossible to avoid placement of infrastructure within these sensitive habitats, and the disturbance footprint must be minimised. • Any disturbed areas must be rehabilitated after construction and implementation of the infrastructure and prior to operation. • Ensure that the proposed development footprint area remains as small as possible.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • Demarcate the construction footprint, and ensure that all construction activities remain within this footprint. • All possible steps must be taken to ensure that powerline crossings do not encroach upon the wetland temporary zone boundary and associated buffer. No pylons shall be placed inside wetlands, no excavations shall be allowed in wetlands and no roads shall be constructed through wetlands. The only allowable access of construction vehicles to wetlands on a limited basis should be during stringing of conductors. • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • Ripping and profiling of all soils compacted as a result of construction activities falling outside of the footprint area shall be undertaken. • No trapping or hunting of fauna shall take place.
	Cumulative impacts: Loss of floral an faunal diversity and ecological intactness	Low (-)	<ul style="list-style-type: none"> • Ensure that the proposed development footprint area remains as small as possible. • Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities. • A speed limit of 40km/h shall be implemented on all roads running through and accessing the study area, to minimise the risk of vehicle collisions with faunal species. • Prohibit the collection of plant material for firewood or for medicinal purposes. • Species specific and area specific eradication recommendations: <ul style="list-style-type: none"> ○ Care shall be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used; and ○ Footprint areas shall be kept as small as possible when removing alien plant species.
	Impacts on wetland hydrological function	Low (-)	<ul style="list-style-type: none"> • No support structures shall be constructed within the wetland areas. All pylons shall be placed above the 1: 50 year flood line or, at the very least, outside the designed wetland boundaries and outside the 1:10 year flood line, where possible.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • Limit the footprint area of the construction activities to what is absolutely essential in order to minimise environmental damage, especially where towers will encroach upon wetland boundaries. Construction vehicles must use existing roads where possible. • All building materials shall be kept at least 100 m outside of the wetland areas as well as any active stream channels. • In any areas where disturbance of banks or wetland vegetation occurs, bank and bed profile shall be re-instated in such a way that it represents predevelopment conditions. • All waste and remaining building materials shall be removed from site upon completion of construction. • No vehicles shall be allowed to indiscriminately drive through the wetland areas or within the active stream channels. • The wetland profile shall be re-instated in such a way as to prevent incision and erosion in all areas that may be disturbed. • The duration in which soils are exposed during construction activities shall remain as short as possible. • Concurrent rehabilitation is to take place as far as possible and footprint areas shall be minimised as far as possible. • Implement alien vegetation control program within the wetland areas. • Monitor all disturbed areas for erosion and incision. • Avoid unnecessary site clearing/vegetation clearing between towers as far as possible. • As far as possible, all construction activities shall occur in the low flow season, during the drier winter months.
Movement of construction vehicles	Direct impacts: Dust emissions	Low (-)	<ul style="list-style-type: none"> • Dust suppression is to be conducted during construction or as complaints are received. • All soil stockpiles should be covered with hessian or sprayed with water. • Warning barricading should be placed around open trenches and should be suitable for high winds so that it is not blown away.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> The Contractor is to take appropriate measures to minimise the generation of dust as a result of excavation works. Such measures include frequent spraying during low rainfall periods. Speed limits must be enforced in all areas to reduce the generation of dust.
	Air pollution caused by vehicle emissions	Low (-)	<ul style="list-style-type: none"> All machinery and equipment must be maintained in good working order, and fitted with approved and specified muffler systems. All road vehicles to be roadworthy. All machinery and equipment shall be switched off when not in use.
	<i>Indirect impacts:</i> -		
	<i>Cumulative impacts:</i> Impacts on wetland hydrological function	Low (-)	<ul style="list-style-type: none"> No support structures shall be constructed within the wetland areas. All pylons shall be placed above the 1: 50 year flood line or, at the very least, outside the designed wetland boundaries and outside the 1:10 year flood line, where possible. Limit the footprint area of the construction activities to what is absolutely essential in order to minimise environmental damage, especially where towers will encroach upon wetland boundaries. Construction vehicles must use existing roads where possible. All building materials shall be kept at least 100 m outside of the wetland areas as well as any active stream channels. In any areas where disturbance of banks or wetland vegetation occurs, bank and bed profile shall be re-instated in such a way that it represents predevelopment conditions. All waste and remaining building materials shall be removed from site upon completion of construction. No vehicles shall be allowed to indiscriminately drive through the wetland areas or within the active stream channels. The wetland profile shall be re-instated in such a way as to prevent incision and erosion in all areas that may be disturbed. The duration in which soils are exposed during construction activities shall remain as short as possible.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> Concurrent rehabilitation is to take place as far as possible and footprint areas shall be minimised as far as possible. Implement alien vegetation control program within the wetland areas. Monitor all disturbed areas for erosion and incision. Avoid unnecessary site clearing/vegetation clearing between towers as far as possible. As far as possible, all construction activities shall occur in the low flow season, during the drier winter months.
	Temporary increase in traffic	Low (-)	<ul style="list-style-type: none"> Access to privately owned land will be arranged with the various landowners along the alignment by the contractor. Adequate and appropriate traffic warning signage must be erected along transport routes and access roads where applicable. All trucks and vehicles removing spoil from the site must have load areas and must be covered by a tarpaulin (plastic/synthetic sheets/covers) to prevent rocks and spoil falling onto the road surfaces.
Increased anthropogenic activity	Direct impacts: Soil erosion	Very Low	<ul style="list-style-type: none"> The width of the construction footprint must be agreed upon by the ECO and the Engineer and as far as possible must be kept to a minimum. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil compaction	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Fences and security access must be maintained throughout the project. Care should be taken to position the pylons outside aquatic habitat, although this may not be possible across the entire route.
	Soil contamination	Low (-)	<ul style="list-style-type: none"> No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. Where possible and practical all maintenance of vehicles and equipment shall take place in a workshop area. During servicing of vehicles or equipment, a suitable drip tray shall be used to prevent spills onto the soil.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • Should emergency repairs be necessary outside of the designated area, drip trays or tarpaulins must be utilised to ensure the collection of the oil. The area for emergency repairs should be identified by ECO. • Leaking equipment shall be repaired immediately or be removed from site to facilitate repair. • All potentially hazardous and non-degradable waste shall be collected and removed to an appropriate registered waste site. • The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site.
	<i>Indirect impacts:</i> Loss of land capability	Very Low	At any tower sites where conventional foundations are installed, the Contractor shall remove the topsoil separately and store it for later use during rehabilitation of such tower sites.
	<i>Cumulative impacts:</i> -		
Project activities	<i>Direct impacts:</i> Heritage resource damage / destruction	Low (-)	<ul style="list-style-type: none"> • If positions of the pylons cannot avoid the respective historical structures, a buffer of at least a 20 m from the historical structures must be implemented during the construction phase and maintained during the operational and decommissioning phases of the project. • If the sites are still to be affected by the proposed development, a mitigation permit is required from SAHRA (section 34 and 35 of the NHRA). Once received, the structures will have to be documented through mapping and excavations (after a mitigation permit is obtained from SAHRA). Thereafter, a destruction permit is required from SAHRA (section 34 and 35 of the NHRA). • A finds management protocol shall be developed for construction activities should stone tools be encountered during pre-construction and construction activities.
	<i>Indirect impacts:</i> -		
	<i>Cumulative impacts:</i> -		
Alternative 2 (for the new 132 kV line from Viljoenskroon to the Marseilles Switching Station)			

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
As for Alternative 1 with an additional impact as listed here.	Direct impacts: Disturbance to local landowner	Low (-)	<ul style="list-style-type: none"> The ECO must monitor noise impacts during construction through the complaints register and liaison with adjacent landowners. Compliance with the Gauteng Noise Control Regulations is required. Construction site yards, workshops, concrete batching plants, and other noisy fixed facilities should be located well away from noise sensitive areas. Stationary noisy equipment such as compressors and pumps should be encapsulated in acoustic covers, screens or sheds where possible. Portable acoustic shields should be used in cases where noisy equipment is not stationary (i.e. angle grinders, chipping hammers). All diesel powered equipment must be regularly maintained and kept at a high level of maintenance. This must particularly include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Truck traffic should be routed away from noise sensitive areas, where possible. Noisy operations should be combined so that they occur where possible at the same time. Instruction of employees on low-noise work methods, for example, the handling of structural steel and the use radiotelephony rather than shouting for communication. Machines in intermittent use should be shut down in the intervening periods between works or throttled down to a minimum. Construction activities should be restricted to daylight hours and not on weekends and public holidays. With regard to unavoidable very noisy construction activities in the vicinity of noise sensitive areas, the contractor should liaise with local residents and owners on how best to minimise impact, and the local population should be kept informed of the nature and duration of intended activities.
	Indirect impacts:		

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<i>Cumulative impacts:</i>		
No-go option			
No project activities taking place.	<i>Direct impacts:</i> None of the above-mentioned environmental impacts.	Very Low	-
	<i>Indirect impacts:</i> None of the above-mentioned environmental impacts.	Very Low	-
	<i>Cumulative impacts:</i> None of the above-mentioned environmental impacts.	Very Low	-
	Social impact of a lack of basic infrastructure provision	High (-)	No mitigation measures are suggested for this potentially positive impact.

Activity	Impact summary	Significance	Proposed mitigation
3. Operation of transmission lines, switching- and substations			
Alternative 1 (preferred alternative)			
Maintenance activities	<i>Direct impacts:</i> -		
	<i>Indirect impacts:</i> Job continuation	Low (+)	No mitigation measures are suggested for this potentially positive impact.
	<i>Cumulative impacts:</i> -		
Operational activities	<i>Direct impacts:</i> Visual impact	Low (-)	No mitigation is required.
	<i>Indirect impacts:</i> -		

Activity	Impact summary	Significance	Proposed mitigation
	<i>Cumulative impacts:</i> -		
No-go option			
No maintenance activities taking place.	<i>Direct impacts:</i> Decrease in quality of electricity provision	High (-)	Authorise proposed activity.
	<i>Indirect impacts:</i> -		
	<i>Cumulative impacts:</i> -		

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

1.4.2 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.

For the construction of the new Marseilles Switching Station and the new Vierfontein Substation

Alternative A (preferred alternative)

All of the impacts listed in Section D 1.4.1. 1 can be mitigated to a **Very Low** level of significance (please refer to **Appendix F** for the detailed assessment in terms of the duration, extent, intensity, and probability of the impacts).

Alternative B

Impact ratings are the same for all alternatives, as their locations are in similar environments, close to each other.

Alternative C

Impact ratings are the same for all alternatives, as their locations are in similar environments, close to each other.

No-go alternative (compulsory)

The No-Go alternative implies that the construction of the switching- and substations would not go ahead and the *status quo* would be maintained.

The No-Go alternative would result in no impacts on the terrestrial and aquatic environment, as the *status quo* would remain. However, it would result **High (-)** impacts of the local community in terms of unreliable electricity provision.

For the construction of the new 132 kV line from Viljoenskroon to the Marseilles Switching Station and the new Vierfontein Line

Alternative A (preferred alternative)

All of the impacts listed in Section D1.4.1.2 can be mitigated to a **Very Low** level of significance (please refer to Appendix F for the detailed assessment in terms of the duration, extent, intensity, and probability of the impacts). The impact of "temporary job creation" is excluded, as no mitigation measures could be recommended for a positive impact.

Alternative B

Impact ratings are the same for all alternatives, as their locations are in similar environments, close to each other, apart from the second alternative for the 132kV line from Viljoenskroon to the Marseilles Switching Station, which would have an additional social impact. This impact can be mitigated to a **Very Low** level if Alternative 1 (preferred alternative) is approved.

Alternative C

Not applicable.

No-go alternative (compulsory)

The No-Go alternative implies that the construction of the transmission lines would not go ahead and the *status quo* would be maintained.

The No-Go alternative would result in no impacts on the terrestrial and aquatic environment, as the *status quo* would remain. However, it would result **High (-)** impacts of the local community in terms of unreliable electricity provision.

For the operation of transmission lines, switching- and substations

Alternative A (preferred alternative)

The **Low (-)** visual impact caused by the presence of transmission lines cannot be mitigated once there, apart from micro-locating poles/pylons in areas that have existing man-made structures. No recommendations for the mitigation of the **Low (+)** impact of the continuation of employment are given as it is a positive impact.

Alternative B

Not applicable.

Alternative C

Not applicable.

No-go alternative (compulsory)

The No-Go alternative implies that the operation of the transmission lines and switching- and substations would not go ahead and the *status quo* would be maintained.

The No-Go alternative would result in no impacts on the terrestrial and aquatic environment, as the *status quo* would remain. However, it would result **High (-)** impacts of the local community in terms of unreliable electricity provision.

1.5 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

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).

N/A

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 preferred alternatives for the proposed project activities be authorised.

Recommended conditions and mitigation measures:

1. The EMPr is to be applied for all phases of the project, including maintenance and decommissioning.
2. An Environmental Control Officer (ECO) is to be appointed during construction of the project to ensure the mitigation and management requirements are met, with weekly site visits and monthly audit reports recommended. It is further recommended that the monthly audit reports be sent to the DEA so as to assist the DEA in keeping abreast of the environmental performance on site.
3. Micro-siting of towers should ensure that, as far as possible and where feasible, no towers are located within environmentally or socially sensitive areas.
4. A finds management protocol shall be developed for construction activities should stone tools or other heritage or palaeontological resources (e.g. fossils) be encountered during construction activities.

Is an EMPr attached?

YES

NO

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.

Barend Smit

NAME OF EAP



SIGNATURE OF EAP

10 March 2017

DATE



1.6 SECTION F: APPENDICES

The following appendices must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

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



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