

BOTANICAL SCOPING REPORT

FOR PROPOSED NEW

ESKOM 400Kv POWER LINE

BETWEEN THE

BLANCO AND DROëRIVIER

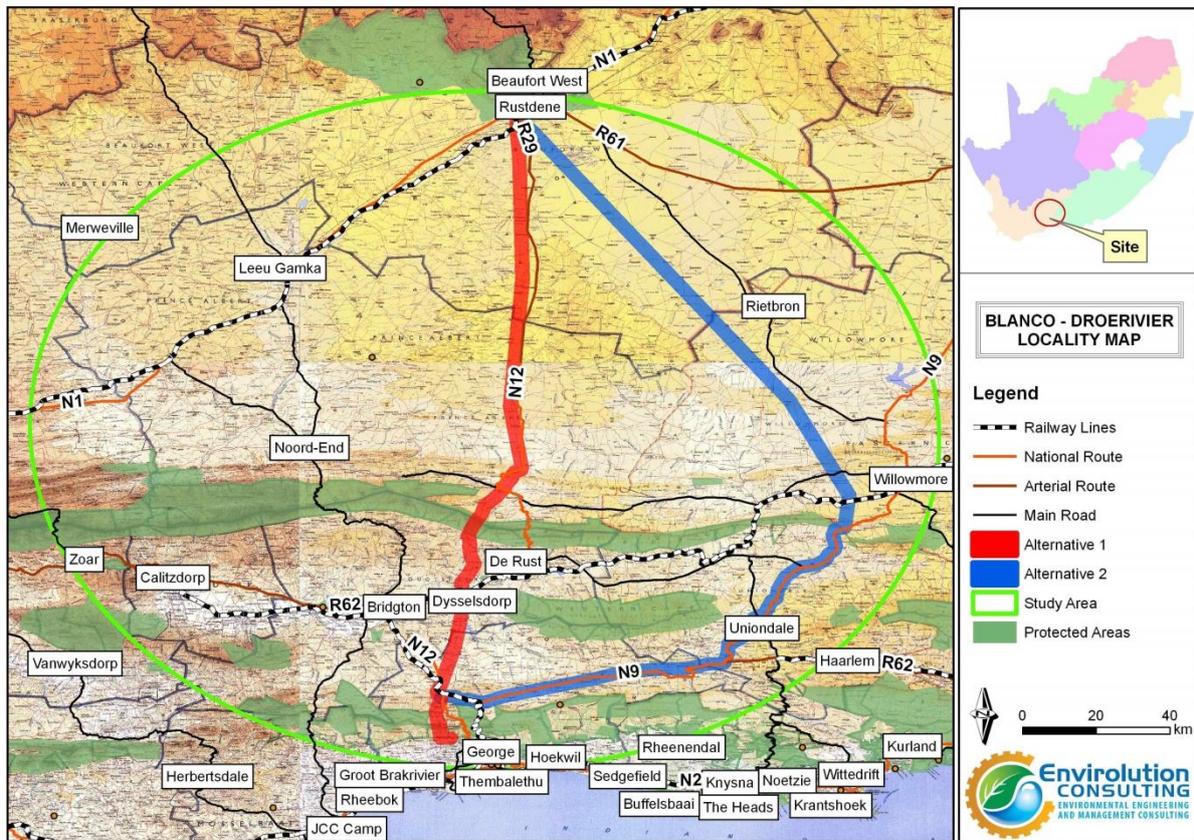
SUBSTATIONS

This report was prepared during April 2015 by:

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INTRODUCTION

Regalis Environmental Services was appointed to do a botanical scoping report for two alternative routes for an ESKOM 400Kv power line between the Blanco and Droërivier substations. Alternative 1 is located entirely within the Western Cape Province and a portion of Alternative 2 is located in the Eastern Cape Province (See Map 1 for location of the two alternative routes).



Map 1: Location of the two alternative routes.

Jan Vlok of RES (Declaration of Independence and CV are provided as Appendages 1&2) prepared this scoping report during April 2015 and the results of this desktop study are provided here.

METHODOLOGY AND UNCERTAINTY REGARDING STUDY AND RECOMMENDATIONS

The national status of the affected vegetation type was determined by means of consulting Mucina *et al* (2006) and the regional conservation status was determined by means of consulting Pence (2014). The conservation status of threatened species follows Raimondo *et al* (2009).

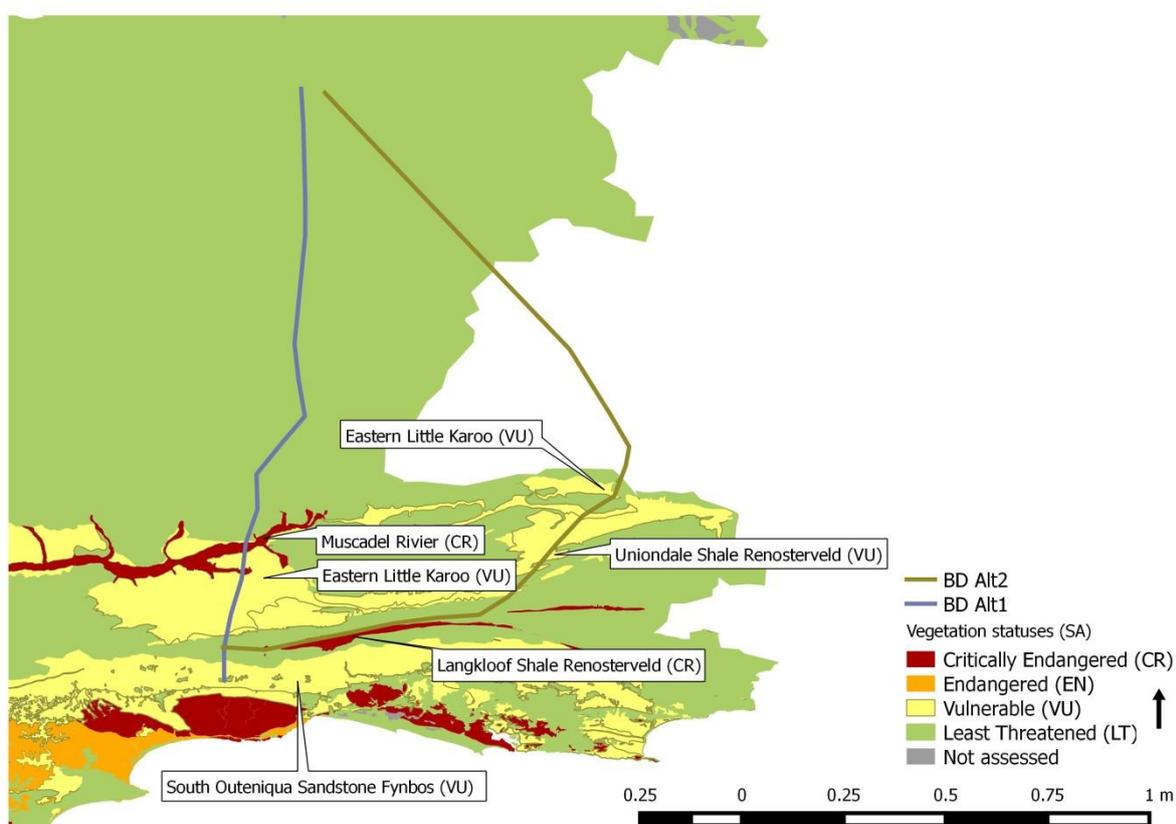
I am thus confident that the proposed recommendations carefully consider national and regional conservation planning principles.

An important assumption is that the power line will have a direct impact on the affected vegetation along a corridor of approximately 100 m wide. Not yet known is to what extent associated activities (e.g. establishment of new access routes) would exacerbate the impact of the different alternatives.

RESULTS OF STUDY

Both alternatives 1 & 2 intersect vegetation types that are regarded as threatened vegetation types on a national level (see Map 1). Note that all the vegetation types intersected by Alternative 2 within the Eastern Cape section of the route (Uniondale Shale Renosterveld, Steytlerville Karoo, Gamka Karoo, Southern Karoo Riviere & Groot Thicket) are not threatened vegetation types (Status = LT).

Alternative 2 may have a higher negative impact on critically endangered vegetation types than Alternative 1, but this depends on the current ecological condition of the intersected areas.



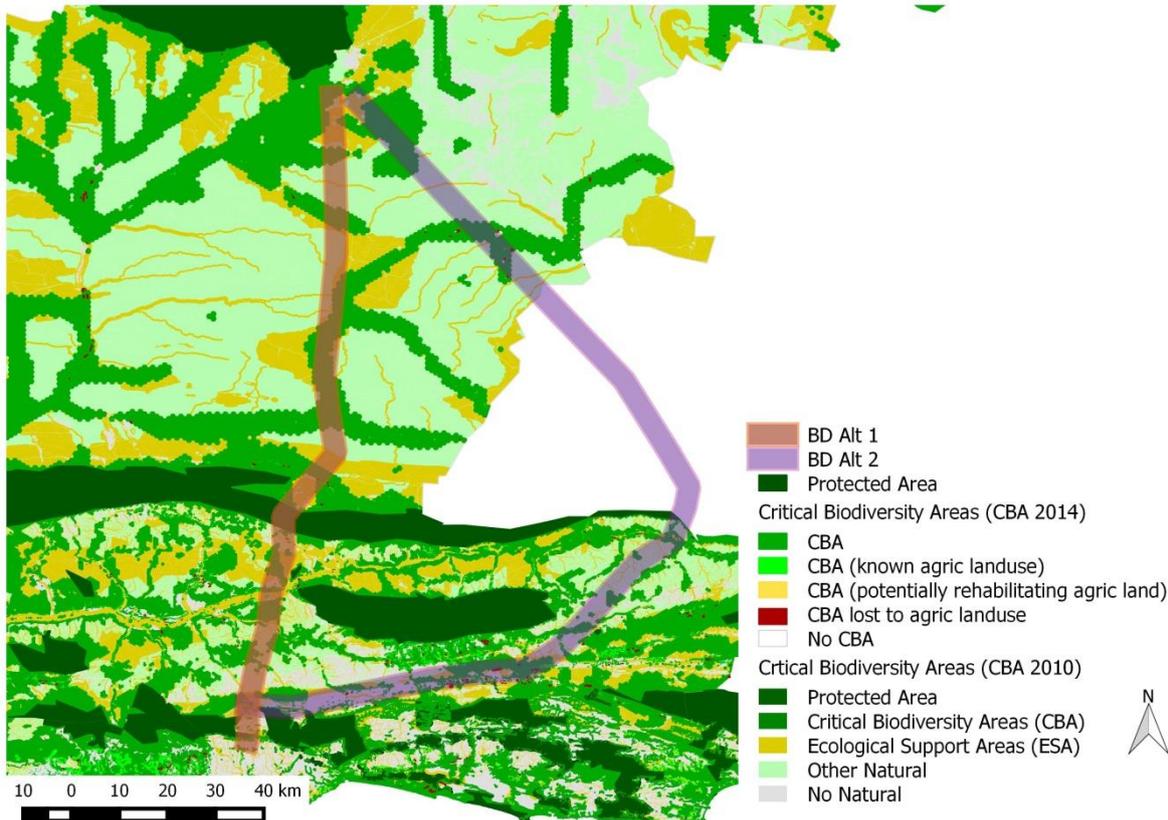
Map 1: Vegetation types and their statuses intersected by the two alternatives (data from Mucina *et al*, 2006). All the vegetation types intersected by Alternative 2 fall in the Least Threatened status class.

The regional critical biodiversity area map provides better information on the ecological condition and the conservation status of the affected area. Areas that are probably still intact (or reasonably so) are indicated as Critical Biodiversity Areas (see Map 2). Unfortunately such finer scale data are not available for the area intersected by Alternative 2 in the Eastern Cape Province section.

The regional data indicates that Alternative 1 intersects a protected area (Swartberg Nature Reserve), which is a declared World Heritage site and will soon form part of the core

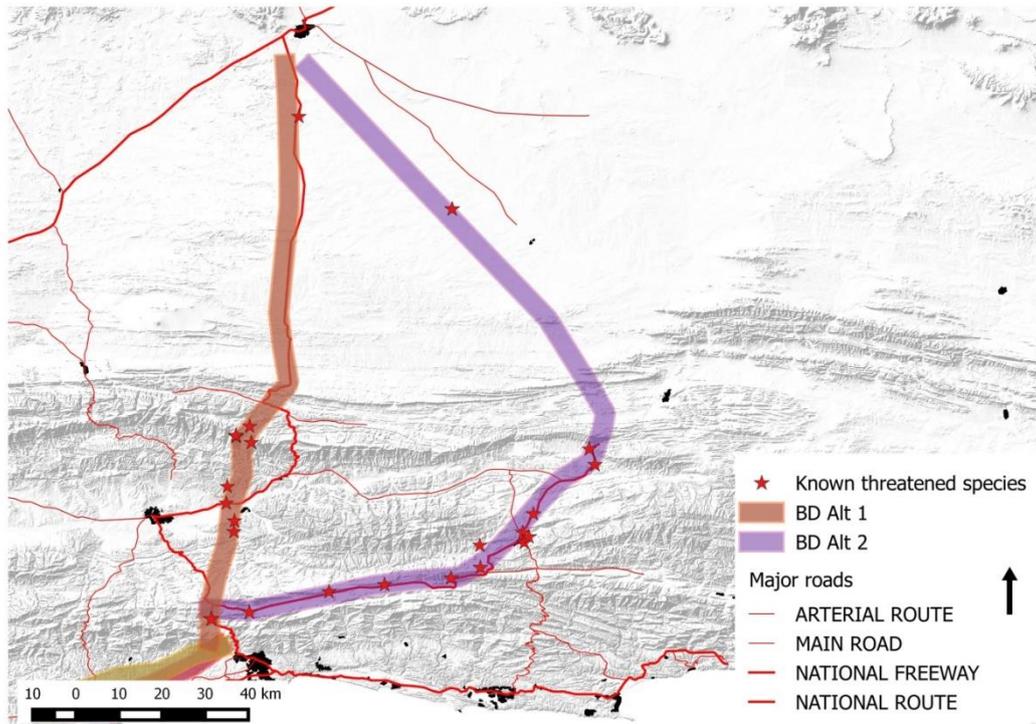
conservation area of an UNESCO recognized biosphere reserve. Although none of the vegetation types within this Swartberg Nature Reserve section are regarded as threatened vegetation types on a national level, the conservation status of the affected area will constrain the potential development of Alternative 1.

In terms of extent of intersection of Critical Biodiversity Areas, there is little difference between the two alternatives (see Map 2).



Map 2: Regional conservation status of the vegetation intersected by the two alternatives (data from Pence, 2014).

Both the alternative routes intersect several known populations of threatened plant species (see Map 3). Of particular concern here is that Alternative 1 intersects populations of threatened plant species within the specially protected and sensitive Swartberg Nature Reserve area. The existing power line already had a negative impact on the local fynbos communities and a parallel 400kV power line will certainly exacerbate the impact, probably with cumulative impacts within this very sensitive environment.



Map 3: Occurrence of known populations of threatened plant species. Note that species identity may not be revealed in the public domain. (Data from unpublished SANBI: CREW database).

CONCLUSION AND RECOMMENDATIONS

A major constraint of Alternative 1 is the fact that it intersects a highly protected area that has been declared a World Heritage site and will soon be a core conservation area of a UNESCO biosphere. I propose that Alternative 1 is rejected and that minor deviations of Alternative 2 are considered to establish the required power line.

A detailed field study may find mitigation actions that will limit the negative impacts of the proposed development along Alternative 2. Such a field study must determine;

1. The true ecological condition of the vegetation along the proposed corridor, especially within the mapped Critical Biodiversity Areas.
2. The occurrence or potential occurrence of threatened plant species along the corridor.
3. Sound mitigation actions to ensure that the establishment of the power line will have a minimal negative impact on sensitive vegetation and threatened plant populations.

REFERENCES

Mucina, L., Rutherford, M.C. and Powrie, L.W. (eds.), 2006. Vegetation Map of South Africa, Lesotho and Swaziland. 1:1 000 000 scale sheet maps. SANBI, Pretoria.

Pence, G.Q.K., 2014. Western Cape Biodiversity Framework 2014. Status Update: Critical Biodiversity Areas of the Western Cape. Unpublished CapeNature report.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C.,

Kamundi, D.A. & Manyama, P.A., 2009. Red List of South African plants.

Strelitzia 25, SANBI, Pretoria.

Appendage 1: Declaration of independence

I, J.H.J. Vlok, as the appointed independent Specialist hereby declare that I:

- act/ed as an independent Specialist in this application / EIA process;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, environmental assessment practitioner and/or competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 and 32 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist report will be distributed or made available to any interested and affected parties registered in the EIA process, administered by the appointed environmental assessment practitioner, with a reasonable opportunity to participate and to provide comments;
- have provided the environmental assessment practitioner / competent authority with access to all information at my disposal regarding the application / EIA process, whether such information is favourable to the applicant or not.
- am aware that a false declaration is an offence in terms of regulation 71 of GN. No. R. 543.



Signature of the Specialist:

Regalis Environmental Services CC

Name of company:

30th April 2015

Date:

CURRICULUM VITAE

Johannes Hendrik Jacobus Vlok

Biographical Information

Birth: 6th December 1957, Calvinia, South Africa.
Identity Number: 571206 5133 089
Criminal Record: None.
Married to Anne Lise Schutte-Vlok and we have one daughter, Marianne Helena Vlok.

Education

1975 Matriculated at Bellville High School.
1982 Diploma in Forestry, Saasveld Forestry College.
1997 MSc (*Cum Laude*), University of Natal.

Employment

1982-1990. Department of Forestry (later Water Affairs, Forestry and Environmental Affairs), as research technician.
1990-1997. Cape Nature Conservation, as regional botanist.
1997-present. Self employed as environmental advisor (Regalis Environmental Services).

Research Output

One book and more than 30 scientific and popular articles published in international & national journals as primary or as co-author. Delivered three keynote and >20 other verbal papers at scientific forums on ecological and floristic studies. Delivered >300 presentations to civil society in public meetings and *via* other media (radio, newspaper and television) on plant ecology and conservation.

Awards

2003. Leslie Hill medal. **Succulent Society of South Africa.**
2006. Gold award. **C.A.P.E.**
2006. Certificate of Appreciation. **Western Cape Conservation Stewardship Association.**
2008. Special Award. **CapeNature**
2010. Marloth medal. **Botanical Society of South Africa.**

Consultation & Advisory Capacity

Consultant to WWF-SA, Cape Nature and SANPARKS to determine conservation status of

land. Several of the studies resulted in the purchase of the properties, now amounting to a value of >R20 million.

Consultant to National, Provincial and private institutions for vegetation restoration projects, environmental impact assessment and environmental management plans. Some of these assignments won national awards.

Referee for international and national scientific articles and donor funded grants.

Classified, described and mapped Forest, Subtropical Thicket, Fynbos and Succulent Karoo vegetation units in four major donor funded projects.

Expert witness in Magistrate and Supreme Court cases.

Research associate and subject moderator for NMMU (Saasveld campus).