

**HERITAGE SITE SENSITIVITY VERIFICATION:  
EZELSJACHT 140 MW WIND ENERGY FACILITY AND  
ASSOCIATED INFRASTRUCTURE, WESTERN CAPE**

Required under Section 38(8) of the National Heritage Resources Act (No. 25 of 1999)  
as part of a Heritage Impact Assessment.

*Report for:*

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## 1. INTRODUCTION

South Africa Mainstream Renewable Power Developments (Pty) Ltd (“Mainstream”) is proposing to develop, own and operate one (1) Wind Energy Facility (WEF), Battery Energy Storage System (BESS), and associated infrastructure with a generation capacity of up to 140 megawatts (MW).

In order to evacuate the energy generated by the WEF to supplement the national grid, Mainstream is also proposing an electrical grid infrastructure (EGI)/grid connection project which will be assessed in a separate Basic Assessment Process (i.e. EGI for WEF). The proposed WEF site is located approximately 13 km south-east of the town De Doorns, within the Cape Winelands District Municipality of the Western Cape Province. The site proposed for the WEF component falls within both the Breede Valley and the Langeberg Local Municipalities.

Applicant	Project Name	Capacity (MW)	Affected Property
South Africa Mainstream Renewable Power Developments (Pty) Ltd	Ezelsjacht Wind Energy Facility (WEF)	140 MW ac	Portion 1 of Farm De Braak No. 7
			Portion 6 of the Farm Ratelbosch No.149
			Farm Zout Riviers No. 170
			Remainder of Farm Ezelsjacht No. 171

The overall objective of the proposed development is to generate electricity by means of renewable energy technologies capturing wind energy to feed into the national grid.

At this stage it is proposed that the WEF component of the renewable energy facility will consist of up to a maximum of 35 wind turbine generators (WTG), with a hub height and rotor diameter of approximately 200 m respectively. The WEF will also include internal and/or access roads (with a width of up to 12 m during construction), a construction laydown area/camp, Operation & Maintenance (O&M) Building and the Independent Power Producer (IPP) 33/132kV portion of the onsite substation, amongst other associated infrastructure which is still to be confirmed. As mentioned, the WEF will have a generation capacity of up to 140 MW. The dimensions of infrastructure are listed in the table below.

The findings of the respective specialist studies will be used to inform the location of the WEF. All identified sensitive and/or no-go areas (including their respective buffers) will be avoided accordingly, as required. However, as part of the proposed application / Scoping & Environmental Impact Assessment (EIA) processes for the WEF project, various site area / location alternatives may be assessed for the associated infrastructure such as the O&M Buildings, IPP Substations and BESS. This is however still to be confirmed and will be communicated to the specialists.

The location alternatives for the associated infrastructure such as the O&M Buildings, IPP Substations and BESS, will also need to be assessed against the ‘no-go’ alternative. The ‘no-go’ alternative is the option of not constructing the respective projects, where the status quo of the current status and/or activities on the site would prevail.

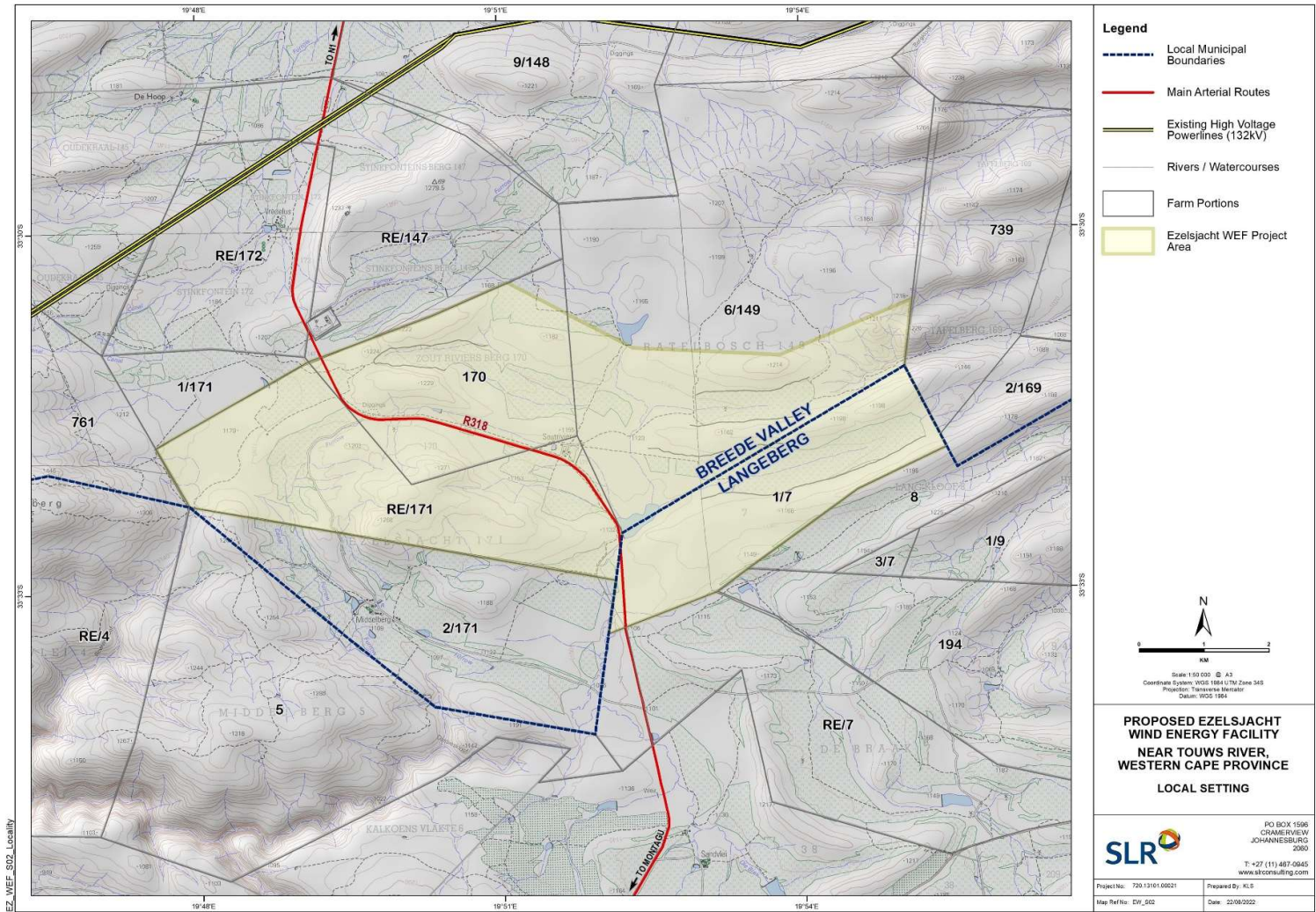


Figure 1-1: Locality Map of the Ezelsjacht WEF

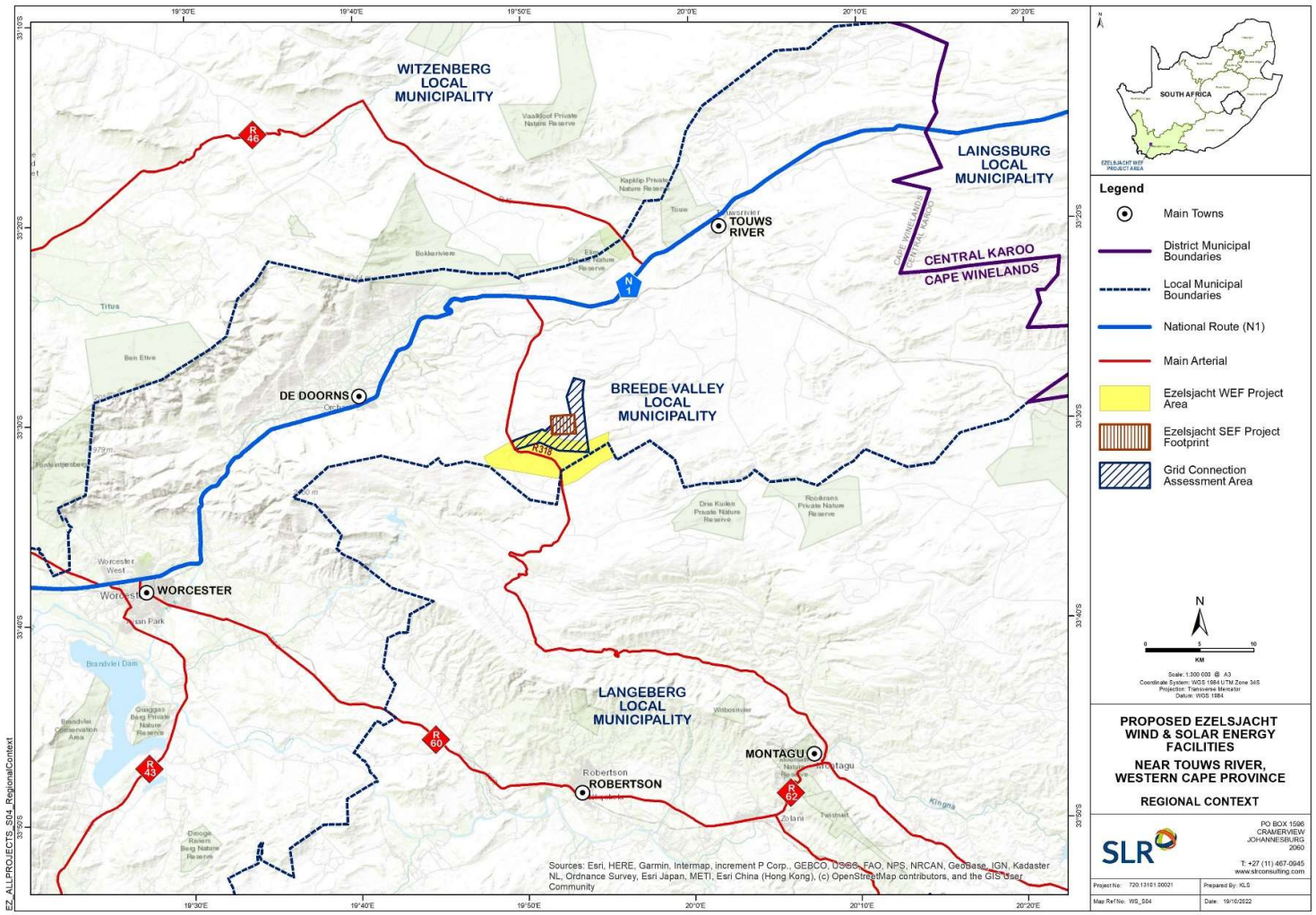


Figure 2-2: Regional Context of the Ezelsjacht WEF in relation to other Renewable Energy Projects

## 2. TECHNICAL DETAILS FOR THE PROPOSED DEVELOPMENT

Ezelsjacht WEF infrastructure	
Location of the site (centre point)	33°31'41.39"S 19°52'4.52"E
Access Roads	Access to the site will be off the R318 and existing access roads will be utilised as far as possible. The width of the access roads will be up to 12m wide.
Application site area	+/- 3,594 hectares
Affected Farm Portions	Portion 1 of Farm De Braak No. 7 Portion 6 of the Farm Ratelbosch No.149 Farm Zout Riviers No. 170 Remainder of Farm Ezelsjacht No. 171
SG Codes	C0500000000000700001 C08500000000014900006 C08500000000017000000 C08500000000017100000
Number of wind turbines and generation capacity	Up to a maximum of 35 turbines with an export capacity of up to 140 MW
Wind turbine specifications	<ul style="list-style-type: none"> <li>• Rotor diameter: up to approximately 200m</li> <li>• Hub height: up to approximately 200m</li> </ul>
Turbine Foundations	Each turbine will have a circular foundation of up to 20m (diameter of foundations), and up to 2m (depth of foundations)
Turbine Crane pads/hard stand areas	Up to 0,7 hectares per turbine
Operations and Maintenance Complex (25 hectares): Shared infrastructure with associated grid	<ul style="list-style-type: none"> <li>• Operations and Maintenance Building approximately 5 hectares</li> <li>• Temporary laydown or staging area, approximately 3ha to be located on the site identified for the substation. It should be noted that no construction camps will be required in order to house workers overnight as all workers will be accommodated in the nearby town.</li> </ul>

	<ul style="list-style-type: none"> <li>• On-site Grid Connection and Substation: 33kV/132kV shared on site/step up substation with IPP portion (33/132kV transformer) and Eskom portion (132kV switching portion).</li> <li>• A Battery Energy Storage System (BESS) will be located next to the IPP portion / yard of the shared onsite 33/132kV substation and will cover an area of 5 ha. The storage capacity and type of technology would be determined at a later stage during the development phase, but will most likely be either solid state or redox flow.</li> </ul>
Fencing	Galvanized steel and 1.8 m in height.
Associated Infrastructure	<ul style="list-style-type: none"> <li>• Cabling: Underground 33kV cables, buried along internal access roads where feasible; and outside of the road footprints and where there are topography and environmental concerns. Overhead 33kV power lines will be constructed, using monopole structures where burying is not possible due to technical, geological, environmental or topographical constraints. 33kV overhead power lines supported by 132 kV pylons of approximately 22 m high will be required, as well as tracks for access to the pylons.</li> <li>• Electrical transformers will be located adjacent to each wind turbine (typical footprint of up to approximately 2m x 2m) to step up the voltage to between 11kV and 33kV;</li> <li>• Other Associated infrastructure (to be confirmed)</li> </ul>

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations [4 December 2014, Government Notice (GN) R982, R983, R984 and R985, as amended], various aspects of the proposed development may have an impact on the environment and are considered to be listed activities. These activities require environmental authorisation (EA) from the National Competent Authority (CA), namely the Department of Forestry, Fisheries and the Environment (DFFE), prior to the commencement thereof. One (1) application for EA for the proposed development will be submitted to the DFFE, in the form of a Scoping & EIA process in terms of the NEMA EIA Regulations of 2014 (as amended).

In accordance with GN 320 and GN 1150 (20 March 2020)<sup>1</sup> of the NEMA EIA Regulations of 2014 (as amended), prior to commencing with a specialist assessment, a site sensitivity verification must be undertaken to confirm the current land use and environmental sensitivity of the proposed project area as identified by the National Web-Based Environmental Screening Tool (i.e., Screening Tool). ASHA Consulting (Pty) Ltd has been commissioned to verify the sensitivity of the Ezelsjacht WEF site under these specialist protocols.

### 3. SITE SENSITIVITY VERIFICATION METHODOLOGY

Initial work was carried out using satellite aerial photography in combination with the author's accumulated knowledge of the local and regional landscape. This was used to locate areas that might be sensitive. Desktop research was also used to inform on the heritage context of the area and this was followed up with a brief site visit on 24 and 25 October 2022 to verify the sensitivity. The site visit aimed to drive as many of the roads as possible in order to see the landscape and determine the likelihood of heritage features being present.

### 4. OUTCOME OF SITE SENSITIVITY VERIFICATION

Figure 1 is extracted from the DFFE screening tool report and shows the archaeological and heritage sensitivity to be low throughout the study area. The site has not yet been surveyed in detail but a close examination of aerial photography and a brief site visit that involved driving the roads on the site reveals that the site is largely mountain land which is of low sensitivity from an archaeological point of view. Other surveys in high-lying areas show that archaeological sites are very rare in such contexts and, when present, are ephemeral and insignificant. The only place where archaeological heritage sites might be found is adjacent to the river in the southwestern part of the site, but rivers are generally avoided by development. There are still some heritage concerns though. These relate to (1) historical farm complexes and (2) scenic routes and the cultural landscape.

Farm complexes are generally places where high densities of historical resources are typically found, even if there is very little elsewhere. Figure 2 shows the Soutrivier complex (the only farmstead in the study area) in 1949 which indicates that it is greater than 60 years of age and thus contains heritage resources. The only other structures in or close to the study area occur immediately outside the south-western corner and in the middle of the western part of the site. Historical aerial photography shows that the former was built between December 2017 and December 2018, while the latter post-dates 1987.

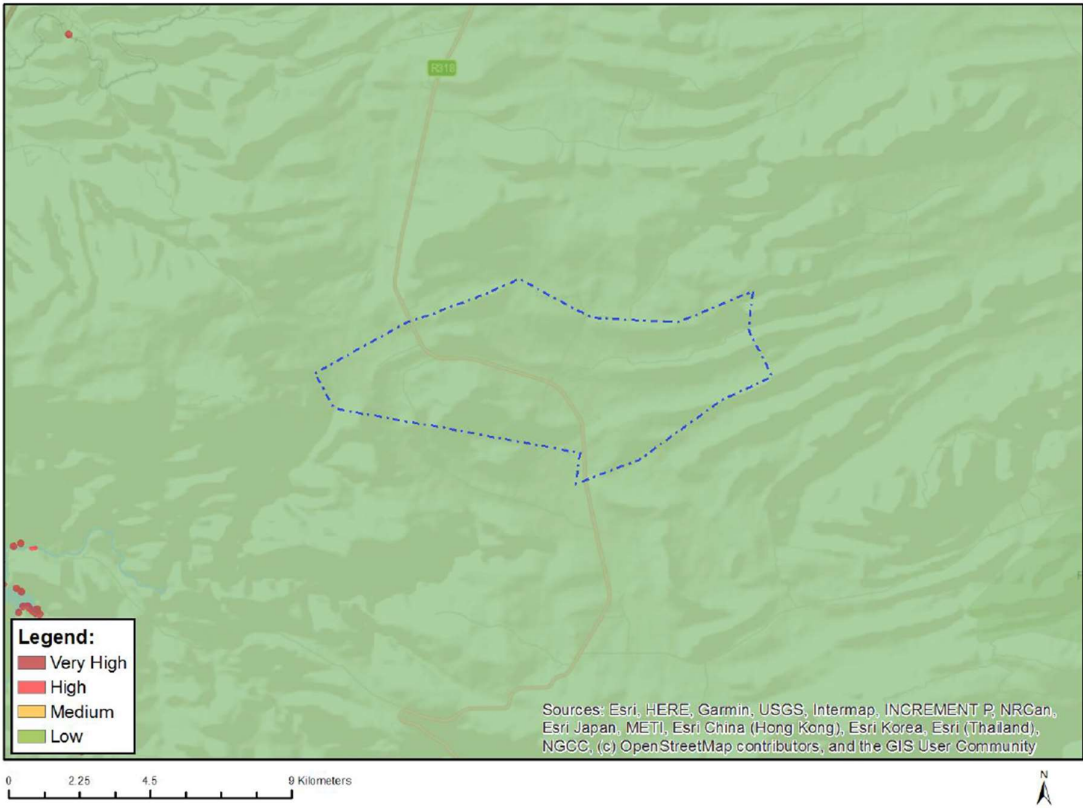
Figures 2 and 3 show that the R318 is more than 70 years old, and was realigned between 1949 and 1967. To the south of the site, the Rooihogte Pass and Burger's Pass are important parts of the road but, despite the height of the proposed project, are likely too far away to be significantly affected by the proposed development. Turbines may be visible at a distance of some 7 to 11 km from the top of Rooihogte Pass (Figure 4), but south of that the primary views are all away from the project site towards the Koo Valley. Burger's Pass is further south at a much lower elevation and will not be affected at all. The landscape around this road is very scenic and the road can certainly be regarded as a scenic route of local significance. Furthermore, the area gets visited during snow season and is thus a tourist destination. The broader area is therefore considered to be a cultural landscape of at least medium significance. Because of the very high visibility of the proposed

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<sup>1</sup> GN 320 (20 March 2020): Procedures for The Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation



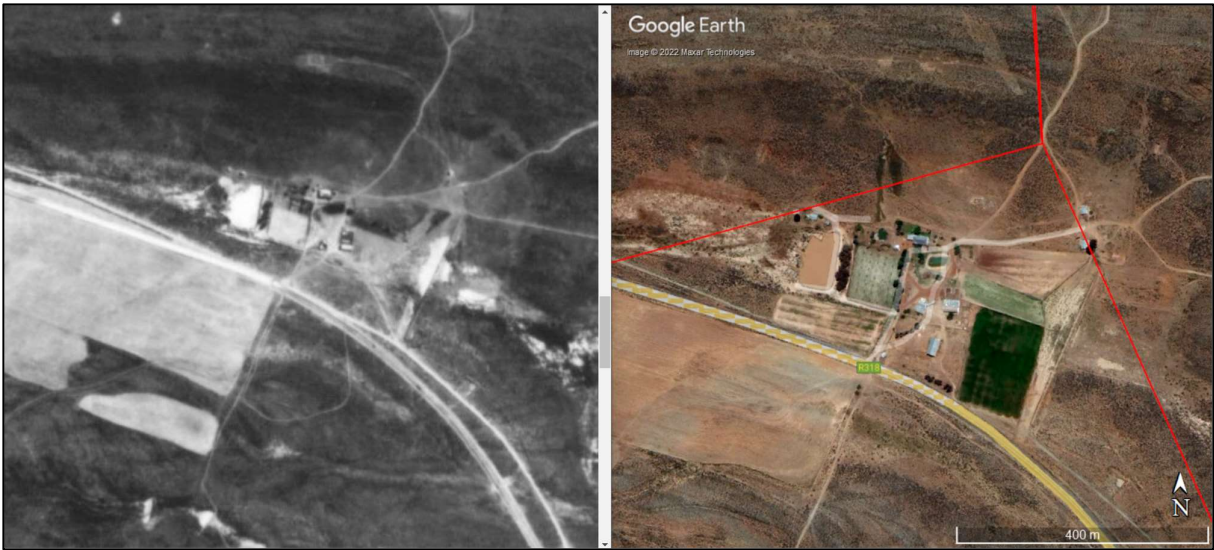
WEF from the R318, impacts to the cultural landscape and scenic route are expected to be a major concern for this project.



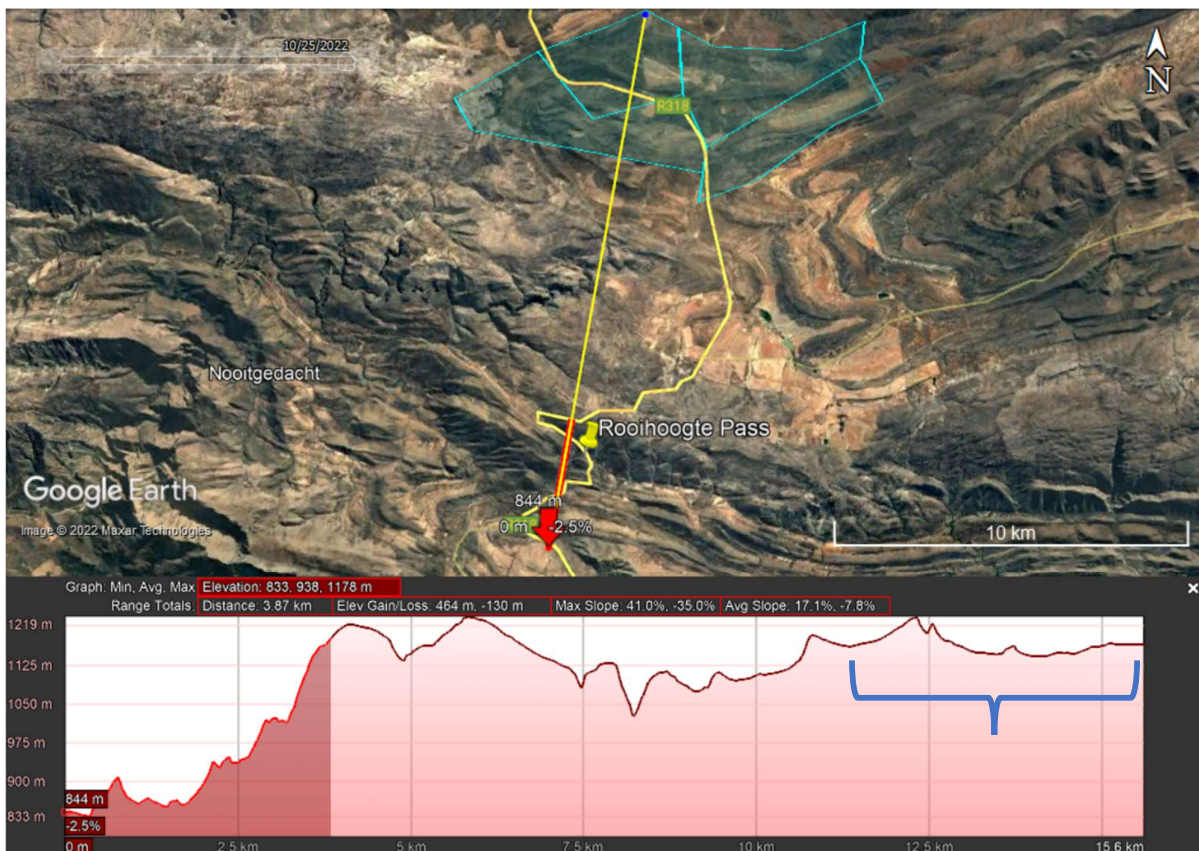
**Figure 1:** Screening tool map showing the entire site to be of low sensitivity.



**Figure 2:** 1949 (225\_008\_02864) and modern (Google Earth) aerial views showing the Soutrivier farmstead on Ezelsjacht 171/remainder. The R381 follows an original alignment.



**Figure 3:** 1967 (534\_011\_08312) and modern (Google Earth) aerial views showing the Soutrivier farmstead on Ezelsjacht 171/remainder.



**Figure 4:** Landscape profile from the base of Rooihogte Pass to the northern edge of the study area. On the profile the red shading denotes the area of the pass while the blue brace shows the extent of the study area.

The site visit showed that there are indeed historical structures at the farm complex. The main house dates to at least the early 20<sup>th</sup> century and may well have been built in phases (Figure 5). It was not examined in detail as it would not be directly impacted. Other structures in the farmstead also appear to be from the early 20<sup>th</sup> century (Figures 6 & 7). A cottage located to the northwest of the farmstead is also older than 60 years (Figure 8). It lies to the north of the WEF study area. A ruined stone-walled kraal (Figures 9 & 10) and a farm graveyard were also found to occur (Figures 11 to 13). The vast majority of the site, however, is considered to be of low sensitivity for archaeology, graves and built heritage. Figures 14 to 20 show the landscape across the site. It is evident that despite the topography, the area is somewhat uniform without obvious landscape features that would have attracted precolonial settlement. The one exception is the small dunefield in the far west. This was checked on site and found to not have any associated archaeology.



*Figure 5: The main farmhouse.*



*Figure 6: Farm shed with stone walled kraal enclosures outside it.*



*Figure 7: Farm shed.*



*Figure 8: Small cottage located away from the farmstead.*



**Figure 9:** Remnants of a stone-walled kraal.



**Figure 10:** Remnants of a stone-walled kraal.



**Figure 11:** Stone walled-farm graveyard with entrance facing west.



**Figure 12:** Two stone-packed graves in the north-eastern corner of the graveyard.



**Figure 13:** One stone-packed grave with some calcrete in the south-western corner of the graveyard.



**Figure 14:** View towards the northwest from the western end of the WEF site.



**Figure 15:** View towards the east from the centre of the WEF study area showing minimal rock outcrops.



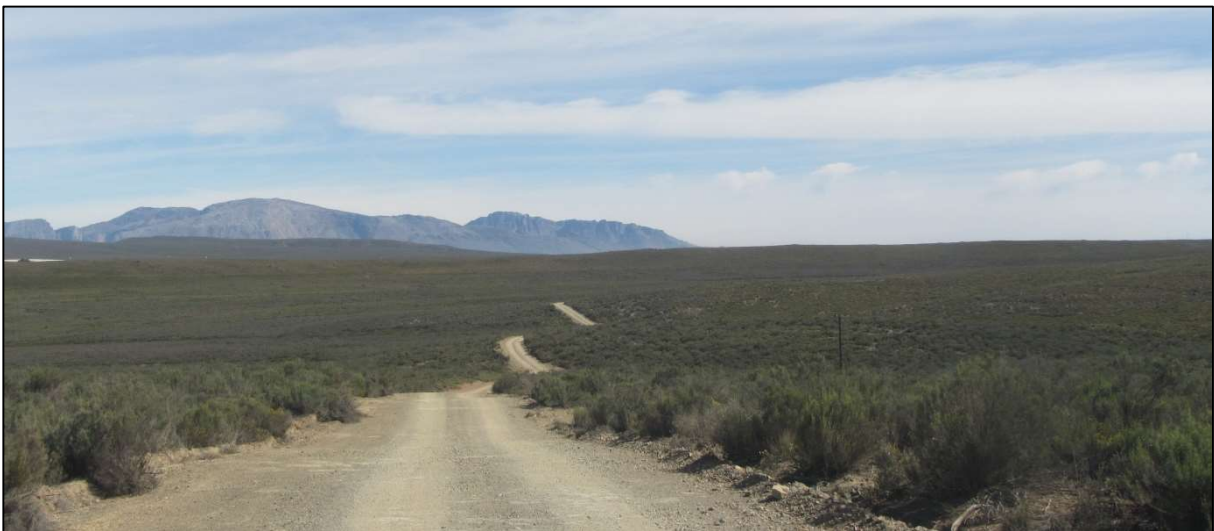
**Figure 16:** Looking towards the southeast from the north-western part of the WEF study area.



**Figure 17:** View towards the east along the R318 in the western part of the WEF study area.



**Figure 18:** View towards the northwest across the small dune field in the western part of the WEF study area.



**Figure 19:** Looking north along the gravel road that crosses the western part of the WEF study area. The top of the Hex River Mountains is visible in the background with the highest point being Matroosberg.





**Figure 20:** Looking east across the hills in the southern part of the study area.

The heritage specialist thus disputes the uniform low sensitivity for the wider site (Figure 1), noting that the farmstead is of high sensitivity and the R318 passing through the area is of at least medium sensitivity. The broader cultural landscape is also considered to be of medium sensitivity. These wider issues are not reflected on the screening tool map which tends to only show specific resources and is thus inadequate.

## 5. CONCLUSION

The site identified for WEF development does indeed appear to be largely of low sensitivity (the main exceptions are the Soutfontein farm complex and associated graveyard, as well as the R318 scenic route and wider landscape) and it is suggested here that the assessment should proceed into the EIA phase. There are no fatal flaws in terms of the WEF site, although it is likely that cultural landscape impacts will be highly significant, especially given the lack of similar projects in the area.

## 6. PLAN OF STUDY FOR EIA PHASE

Under the National Heritage Resources Act (No. 25 of 1999; NHRA) it is required that an assessment of heritage impacts be included in every EIA. As such, and because there is a strong likelihood of impacts occurring, a full heritage impact assessment (HIA) will need to be prepared and submitted to Heritage Western Cape (HWC) for comment. The report will need to comply with the requirements of HWC. It is envisaged that HWC will require specialist assessments of archaeology and palaeontology as part of the HIA, although Dr John Almond (palaeontologist) has suggested that if the site is of low palaeontological sensitivity then he would recommend no further study for that aspect (this would then be reflected in the NID). A follow-up field survey

that includes some walking transects will be done during the EIA phase. This will confirm the findings of the present site verification study. The study should also comply with Appendix 6 of the 2014 EIA Regulations.