

HERITAGE SCOPING ASSESSMENT: PROPOSED MOORREESBURG WIND ENERGY FACILITY AT MOORREESBURG, WESTERN CAPE PROVINCE

(Assessment conducted under Section 38 (8) of the
National Heritage Resources Act as part of an EIA.)

Draft 1 Prepared for:

Savannah Environmental (Pty) Ltd
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EXECUTIVE SUMMARY

ACO Associates cc were appointed by Savannah Environmental (Pty) Ltd on behalf of the client, IE Moorreesburg Wind (Pty) Ltd, to undertake a Heritage Scoping level report for the establishment of a wind energy facility energy facility as well as associated infrastructure on a site located east of the N7 at Moorreesburg, Swartland Municipality, Western Cape

The proposed property consists of portions of the farms Zwartfontein, Bessiesfontein, Tontelberg and Hartebeesfontein, the specific details of which are included within this report. .

This desktop assessment has identified the following potential heritage indicators:

Palaeontology: No paleontological issues expected

Archaeology: The proposed study area is within the highly transformed landscape of the Swartland. Archaeological impacts are expected to be low.

Built Environment: There are at least 4 groups of farm buildings on or close to the land parcel. These may be greater than 60 years of age but none have been previously identified as heritage sites of greater than local significance. It is possible that farm cemeteries and/or graves may occur on the property.

Cultural Landscape: The proposed facility will be visible from Moorreesburg and the N7. The impacts that could result are of an aesthetic nature. It is expected that these will be tolerable within the vast manicured landscape of wheat lands.

Proposed work for the EIA phase:

- A field survey to determine the location of above-ground pre-colonial archaeological remains and to make recommendations for mitigation;
- An assessment of any farm buildings and farm graves to determine their historical significance and the impact of the proposed facility on the built environment;
- Integration of the visual impact assessment in terms of the heritage qualities and values of the area.

Declaration:

Mr Tim Hart is an independent specialist consultant who is in no way connected with the proponent, other than delivery of consulting services.

Tim Hart (MA) has been involved in heritage impact assessment and applied research for 26 years. Tim Hart is accredited with Principal Investigator status with the Professional Association of Archaeologists.

GLOSSARY

Archaeology: *Remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures.*

Early Stone Age: *The archaeology of the Stone Age between 700 000 and 2500 000 years ago.*

Fossil: *Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.*

Heritage: *That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999.*

Holocene: *The most recent geological time period which commenced 10 000 years ago.*

Late Stone Age: *The archaeology of the last 20 000 years associated with fully modern people.*

Middle Stone Age: *The archaeology of the Stone Age between 20-300 000 years ago associated with early modern humans.*

National Estate: *The collective heritage assets of the Nation*

Palaeontology: *Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.*

Pleistocene: *A geological time period (of 3 million – 20 000 years ago).*

SAHRA: *South African Heritage Resources Agency – the compliance authority which protects national heritage.*

Structure (historic) *Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected structures are those which are over 60 years old.*

Wreck (protected): *A ship or an aeroplane or any part thereof that lies on land or in the sea within South Africa is protected if it is more than 60 years old.*

Acronyms

DEA	Department of Environmental Affairs
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
LSA	Late Stone Age
MSA	Middle Stone Age
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency

1. INTRODUCTION

ACO Associates cc have been appointed by Savannah Environmental (Pty) Ltd on behalf of the client (IE Moorreesburg Wind (Pty) Ltd), to establish a commercial wind energy facility as well as associated infrastructure on a site located immediately to the East of the N7 at Moorreesburg in the Western Cape (Figure 1).

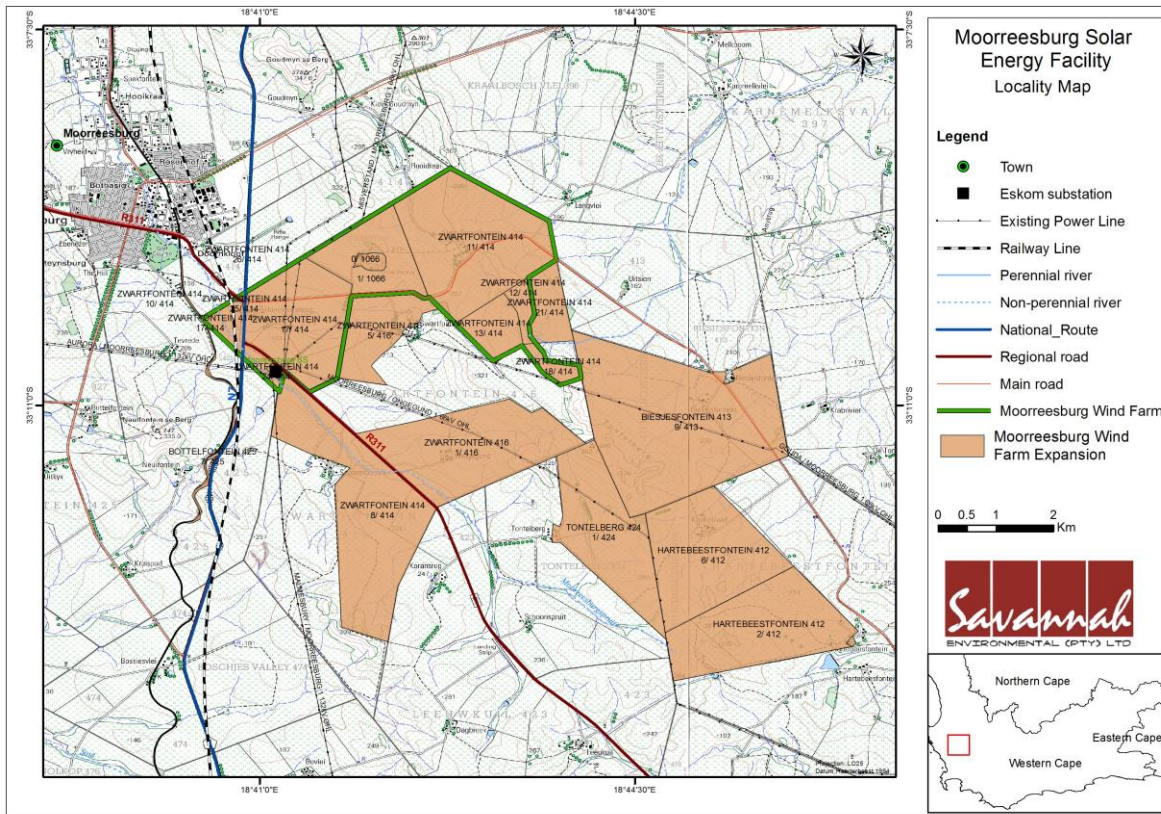


Figure 1: The locality of the proposed wind farm on a number of farms situated to the East of the Town of Moorreesburg.

The proposed wind farm will be located on the following properties indicated in Table 1 (referred to as 'the site') in the Malmesbury Division, Western Cape:

Table 1. Land portions making up the site.

Farm	Farm Number	Portion	Extent (Ha)	Landowner	Drafting notes
Klipheuwel (Hartebeestfontein) (servitude)	412	6	303,0881	Klipheuwel Trust IT 1821/2011	
Hartebeestfontein	412	2	303.9461	Engcar Plase (Pty)Ltd Reg No: 68/14405	
Tontelberg	424	1	264.4282	Pool Familie Trust IT 1793/2000	
Biesjesfontein	413	9	626.5630	Kleindrif Boerdery (Pty)Ltd Reg No: 73/13751	
Zwartfontein	416	1	325.5824	Pool Familie Trust IT 1793/2000	
Zwartfontein (servitude)	414	8	406.084	Wecar Trust IT 2920/2001	
Zwartfontein	414	Remainder of Portion 11 (Portion of Portion 1)	352.2524	Hanekomshoop Trust	
Zwartfontein (Klein Zwartfontein)	414	Remainder of Portion 12 (Portion of Portion 1)	24.0997	Hanekomshoop Trust	
Zwartfontein (annex Klein Zwartfontein)	414	Remainder of Portion 13 (Portion of Portion 1) of the farm ZWARTFONTEIN no 414	66.7481	Hanekomshoop Trust	Comment: in the deed (page 4) it is Portion 13 and not remainder of Portion 13
Zwartfontein	414	Remainder of Portion 18 (Portion of Portion 1) of the farm ZWARTFONTEIN no 414	24.9874	Hanekomshoop Trust	Comment: in the deed (page 5) the extent is 24.9873 ha

Zwartfontein	414	Portion 23 (Portion of Portion 11) of the farm ZWARTFONTEIN no 414	51.3922	Hanekomshoop Trust	
Zwartfontein	414	Remainder of Portion 17 (Hanekomshoop) (Portion of Portion 1) of the farm ZWARTFONTEIN no 414	360.4609	Hanekomshoop Trust	
Zwartfontein	416	Portion 7 (Portion of Portion 3) of the farm ZWARTFONTEIN no 416	35.3002	Hanekomshoop Trust	
Zwartfontein	416	Remainder of Portion 3 (Zwartfontein noord) of the farm ZWARTFONTEIN no 416	68.2487	Hanekomshoop Trust	

All the land is currently zoned agricultural 1, and being situated in the Swartland, is mainly used for the cultivation of wheat.

1.1 Development Proposal

It is envisaged that the total generation output of the wind farm will be up to approximately 126MW. The size, location and number of turbines will be informed by incoming wind data and through specialist input in the EIA process. The power will be evacuated from the site by means of a 132kV line to the Eskom grid.

- The proposed activity will require the construction of a hardstand area - cleared, compacted areas for a heavy lift crane next to each turbine foundation for turbine assembly, maintenance and decommissioning.
- The excavation of a large gravity foundation trench (typically 25x25x5m) for the concrete footing of each turbine.
- Temporary laydown areas for the placement and assembly of the turbine equipment during construction and decommissioning.
- A collector station
- An overhead transmission power line (132kV) to the existing Moorreesburg substation.
- Internal access roads to turbine sites.

1.2 Terms of reference

This scoping phase of an HIA is required as a preliminary desktop exercise to identify potential heritage resources which may be impacted during the *construction, operation and decommissioning* phases of the project.

The heritage practitioner is required to provide:

- Description of the affected environment;
- Description of the issues identified during the scoping process;
- Recommendations regarding a methodology to be adopted in assessing potentially significant impacts in the EIA Phase, i.e. Plan of Studies for the EIA.

ACO Associates was approached to undertake or provide scoping level heritage input for the proposed Moorreesburg Wind Energy Facility. This study attempts to predict the possible range of impacts and identify issues in terms of accumulated knowledge of the

area. The source of information is primarily based on published archaeological reports and unpublished Archaeological and Heritage Impact Assessments for the general area. A site inspection has not been carried out for the purposes of this scoping study.

1.3 Restrictions and assumptions

The study area has not been subject to a field survey. This will be conducted during the course of the EIA should the project proceed to that point.

2. LEGISLATIVE CONTEXT

The basis for all heritage impact assessment is the National Heritage Resources Act 25 (NHRA) of 1999, which in turn prescribes the manner in which heritage is assessed and managed. The National Heritage Resources Act 25 of 1999 has defined certain kinds of heritage as being worthy of protection, by either specific or general protection mechanisms. In South Africa the law is directed towards the protection of human made heritage, although places and objects of scientific importance are covered.

As this development is the subject of an EIA, heritage is dealt with under section 38 (8) of the NHRA. This requires that aspects of the NHRA are addressed as part of the EIA. The Provincial Heritage Authority (HWC) is a commenting authority and must determine if the EIA process has adequately addressed heritage issues as required by the NHRA. A comment in this regards will be sent to DEA&DP.

The National Heritage Resources Act also protects intangible heritage such as traditional activities, oral histories and places where significant events happened. Generally protected heritage which must be considered in any heritage assessment includes:

- Buildings and structures (greater than 60 years of age)
- Archaeological sites (greater than 100 years of age)
- Palaeontological sites and specimens
- Shipwrecks and aircraft wrecks
- Graves and grave yards
- Cultural Landscape

With respect to the last bullet, the Visual Impact Assessment (VIA) is being conducted by a VIA specialist. Nevertheless, in terms of Section 3 (2)(d) of the NHRA, No 25 of 1999, the national estate may include "landscapes and natural features of cultural significance". It is important that the VIA specialist examines the impact of the development on the cultural landscape or consults with a heritage practitioner in this regard.

While not specifically mentioned in the NHRA, No 25 of 1999, Scenic Routes are recognised by DEA&DP as a category of heritage resources. In the DEA&DP Guidelines for involving heritage specialists in the EIA process, Baumann & Winter (2005) comment that the visual intrusion of development on a scenic route should be considered a heritage issue. This is also given recognition in the Notice of Intent to Develop (NID) application which is used by Heritage Western Cape.

3. RECEIVING ENVIRONMENT

The study area is in the heart of the Swartland, the main wheat farming area of the Cape Province. The Swartland is broad rural expanse of low rolling hills interspersed with farms, small communities and towns. Before the advent of wheat farming, the Swartland was characterised by "Renosterveld" plant communities which gave the area a dark-grey olive-green appearance when viewed from afar – hence the name Swartland (black country). The underlying geology which consists of schists and shales of the Malmesbury Group is considered to be good agricultural land, the shale being rich in trace elements, which before the advent of agriculture supported large quantities of game. The Berg River alluvial terraces contain copious quantities of Early and Middle Stone Age artefacts attesting to the occupation of this landscape by humans for a million years or more. Today the Swartland is one of the most important wheat producing areas of the nation. Almost every farmer is involved in the cultivation of wheat which has given the entire area its particular character and texture.

3.1 History

In 1661, Pieter Cruythoff, one of Jan van Riebeeck's corporals, led a reconnaissance team of eleven men to explore the hinterland. A myth had been circulating for some time about the city of gold, Monomotapa, which allegedly lay somewhere to the immediate north of the Cape settlement.¹ The VOC headquarters were impatient for their envisioned instant profits and commissioned several expeditions to find the fabled land. While the mission obviously never succeeded in locating a town saturated with gold, it did provide one of the earliest written records describing the interior of the Cape. The surgeon, Pieter van Meerhof, accompanied the first mission and kept the journal and wrote of plains teeming with wildlife. From one vantage point at Kasteelberg, on one day, they saw "thirteen horses (quagga), five rhinoceros, ostrich, thousands of hartebeest"² It is also in this journal that 'Riebeeck Kasteel' was first mentioned, named in honour of their mentor Jan van Riebeeck.

When Willem van der Stel became governor of the Cape in 1699, he opened up new area for settlement, which included land grants in the Riebeeck Valley and Tulbagh. Some of

¹ Worden, N, Van Heyningen, E & V. Bickford-Smith, 1998: *Cape Town: The Making of a City: an Illustrated Social History*, D. Philip, South Africa.

² Molsbergen, 1916:45-62 & Mosop 1931: 6-11, in Rookmaker, L.C. *Zoological Exploration of Southern Africa*

the first arrivals were Huguenots, and this resulted in the early establishment of vineyards, along with wheat and other fruit crops.

The VOC *freeburgher* system intensified pressures on the land. Food production yielded dreadfully low financial returns for the farmers, as the VOC paid unrealistically low prices. This forced farmers to turn to hunting as a means of survival. Within a number of years the larger fauna, such as the hippos of the Berg River, were exterminated. This level of natural resource exploitation put the settlers into inevitable conflict with the local indigenous Khoekhoen groups in the region, which included the Souqua (Sonqua), Cochoqua, and further along the coast, the 'Saldanhars'. The settlers' numbers, their uncompromising drive, and firepower, all but guaranteed that the Khoekhoen would be pushed back and that the landscape, once teeming with wildlife, would irreversibly stripped of its natural fauna and flora.

According to historic records, the Khoekhoen favoured the Swartland as grazing land as it was far better suited to raising cattle than the depleted soils of the Table Mountain sandstones. The Berg River served as a corridor of permanent water and as such had a strong pull over the movement and settlement of people.

By the 19th century vast tracts of the Swartland were under wheat cultivation reaching an unsustainable climax in the 1930's when sheet erosion caused by years of poor plowing practice brought wheat farming to its knees and caused many of the poorer landowners to be displaced and their land consolidated. It was not until the universal implementation of contour plowing and modern fertilizers that farming became sustainable again. The indigenous Renosterveld plant communities have disappeared save a few small patches of land where remnant communities have survived. Hence, over the last 200 years the Swartland became transformed from a game rich wilderness to a vast historic landscape of wheat cultivation, farmsteads and small towns.

Like most of the Swartland Towns, Moorreesburg is a "kerksdorpie". The town of Moorreesburg is named after the Rev. HA Moorrees and was founded as a new Dutch Reformed parish on the farm Hooikraal in 1890. This was followed by a small school, post office and constabulary. The railway from Malmesbury was extended to the town in 1902.

Apparently farmers in the area had been endeavouring to establish the church to service the community since the mid 19th century. Messrs F Warnich and Dirk Kotze, then owners of the farm Hooikraal, each relinquished a piece of their land for church purposes. Over a period of many years the Moorreesburg Dutch Reformed Church purchased additional land for the growth of the town (the Church Council was effectively the Town Council). Moorreesburg is essentially a late 19th-early 20th century town that eventually became known as a regional center for wheat farming. A claim to fame that the town has is its association with the founding days of the company "Tiger Oats"³.

³ Athiros. G and L, and Turner, M. 2011 Riebeecks Castle. Tokai: Historical Media.

3.2 Potential heritage indicators

Palaeontology

No known palaeontological resources are present in this area as it is all underlain by Malmesbury Shale. The shales largely pre-date life forms.

Archaeology

The environment has been transformed by agriculture for more than 2 centuries. *In-situ* archaeological resources are extremely sparse, although it is expected that at least some Early Stone Age artefacts may be present in the fields. These would likely be of very low significance. It is also possible that Later Stone Age sites may be found along water courses but it is unlikely that turbines would be placed in proximity to these areas. It is possible that some historical archaeological resources may be present close to the various farmsteads in the project area which will be protected by a 500 m buffer. Archaeological impacts are expected to be of low significance.

Built environment

A survey of deeds of the land parcels involved indicate that all the land that makes up the study area derives from 3 parent farms Zwartfontein, Biesjiesfontein and Tontelfontein were formalized as grants from quitrent farms in 1818-1835. Thus it is possible that the farms were inhabited and worked before this time.

Many farm building complexes occur in the area with at least 14 complexes of farm buildings occurring on or close to the study area. The conservation status of these buildings needs to be assessed during the EIA process. Although there is a high likelihood that they are greater than 60 years of age, all appear to have been adapted and modified over time.

Graves and graveyards

Farm graveyards are known to occur in the area. Given the shale substrate, isolated unmarked pre-colonial graves are very unlikely to occur.

Landscape

The cultural landscape is one of agriculture (wheat and livestock) with farmsteads and blue gum plantations dotted around and on the various hills. The gum plantations, although not very tall, add vertical components to the landscape, increase the visual clutter and will help to a limited degree with mitigation of visual impacts.

Visual concerns

This is probably the most significant aspect of the project in heritage terms. The proposed project will be visible from the N7 which can be considered a significant scenic route. The proposed facility which within the context of the highly manicured Swartland landscape may not necessarily pose a major visual or aesthetic impact.

4. MITIGATION AND CONSERVATION

4.1 Palaeontological Heritage

No specific measures required.

4.2 Archaeological Heritage

The distribution of archaeological heritage will need to be determined by a field survey. It is expected that much of the impacts to surface archaeological heritage (pre-colonial and colonial) will be controllable through avoidance of sensitive areas in the unlikely event that they have survived. If for any reason mitigation by avoidance is not feasible, the usual process is to record and sample the archaeological site before its destruction is permitted.

4.3 Un-identified archaeological material and graves

There is always a chance that archaeological material and graves may be exposed during excavations for the facility and access roads.

All archaeological material is protected by Section 38.5 of the National Heritage Resources Act and it is an offence to destroy material. Archaeological material may only be altered or removed from its place of origin under a permit issued by the South African Heritage Resources Agency. If archaeological material (including graves) is uncovered, all work must cease in that area, while the relevant heritage authorities are notified. Rescue mitigation may be required, for the cost of the developer. Human graves can occur anywhere on the landscape. It is best that these are not disturbed. In the event of an accidental disturbance, the find site must be left as undisturbed as possible (i.e. treated as a forensic site) and an archaeologist contacted immediately. The archaeologist will invoke the necessary procedure for exhumation if needed.

4.4 Built Environment

It is not expected that the built environment will be directly impacted by the proposal unless it becomes necessary to demolish structures (farm houses, sheds, kraals, etc)

that are greater than 60 years of age. It is anticipated in most instances it will be possible to avoid direct impacts. If any farm buildings, including sheds and old kraals, are threatened by development, an assessment of their heritage significance will be required. Indirect impacts include the visual intrusion of the proposed construction on historic buildings. This can only be assessed during the survey of the properties and suitable mitigation proposed.

Similarly, while it is generally possible to avoid historic farm graveyards, those graveyards belonging to the farm workers are sometimes difficult to identify as they may lack headstones and fences. Exhumation of graves is generally not recommended due to the lengthy legal processes which are required and it is preferable that they are avoided.

4.5 Cultural landscape and sense of place

It is important that the Visual Impact Assessment takes into consideration the aesthetics of the site and assess the impact of the proposal on the cultural landscape and the scenic qualities of the gravel road passing through the proposed facility. These are the visual qualities which are required by Heritage Western Cape when they ask for a visual impact assessment. It is therefore important that the visual specialist consult with the heritage practitioner.

5. ASSESSMENT OF ALTERNATIVES

No alternatives have been proposed for the facility.

6. PROPOSED SCOPE OF STUDY FOR THE EIA

The completion of a "Notice of Intent to Develop" (NID) to Heritage Western Cape will elicit comments on further heritage studies for the area. It is likely that they will request a Heritage Impact Assessment, including a desktop Palaeontological Impact Assessment, an Archaeological Impact Assessment and a Visual Impact Assessment.

It is recommended:

ACO will undertake to complete a heritage impact assessment (HIA) as part of the EIA for the proposed facility. This will include:

- Conduct a literature survey to gain a thorough knowledge of any background information pertinent to the affected area;
- Engage with consultants who have specialist regional knowledge of the area;
- Conduct a field survey of the proposed facility tailored to the varying sensitivities and methods required;
- Map, record and photograph any heritage sites or objects offered protection by the NHRA or any other object or place considered significant by the ACO team;

- Produce an illustrated report describing the findings, defining areas of sensitivity, any further work required and suggesting mitigatory actions for reducing impacts to heritage resources;
- Attend team meetings and presentations as required.

7. REFERENCES

Athiros, G and L, Turner., M. 2011. Riebeeks Castle. Tokai: Historical Media.

Baumann, N. & Winter, S. 2005. Guideline for involving heritage specialists in EIA process. Edition 1. CSIR report No ENV-S-C 2005 053E. Provincial Government of the Western Cape: Department of Environmental Affairs and Developmental Planning. ¹

Worden, N, Van Heyningen, E & V. Bickford-Smith, 1998: *Cape Town: The Making of a City: an Illustrated Social History*, D. Philip, South Africa.

Molsbergen, 1916:45-62 & Mosop 1931: 6-11, in Rookmaker, L.C. *Zoological Exploration of Southern Africa 1650-1790*, Balkema, Rotterdam

Penn, N. 1987. The Frontier in the Western Cape, 1700-1740. In Parkington, J.E. & Hall, M. (eds). *Papers in the Prehistory of the Western Cape*, South Africa. Oxford: British Archaeological Reports International Series 332, 462-503.

Worden, N, Van Heyningen, E & V. Bickford-Smith, 1998: *Cape Town: The Making of a City: an Illustrated Social History*, D. Philip, South Africa.

Materials from the Surveyor Generals Office, Cape Town.