

55.5MW SPRINGBOK WIND POWER GENERATION FACILITY NEAR SPRINGBOK, NORTHERN CAPE PROVINCE

Site Verification and Motivation for Amendment of the
Environmental Authorisation

DFFE Ref.: 12/12/20/1721

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PROJECT DETAILS

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TABLE OF CONTENTS

	PAGE
PROJECT DETAILS	i
TABLE OF CONTENTS	ii
LIST OF APPENDICES	iii
PURPOSE OF THE REPORT	iv
1. OVERVIEW OF THE PROJECT	1
1.1. Location	1
1.2. Status (baseline) of the Environment assessed through the Environmental Impact Assessment (EIA) Process (EIA report, December 2010)	1
1.3. Potential Environmental Impacts determined through the Environmental Impact Assessment (EIA) Process:	7
1.3.1. Summary of environmental findings in the Environmental Impact Assessment (2010)	8
2. DESCRIPTION OF REQUESTED AMENDMENT	13
2.1. Amendment 1: Extension of the validity of the Environmental Authorisation	13
3. MOTIVATION FOR THE REQUESTED AMENDMENT	15
3.1. Extension of the validity of the Environmental Authorisation	15
4. CONSIDERATIONS IN TERMS OF THE REQUIREMENTS OF THE EIA REGULATIONS AND DFFE	16
4.1. Details of Environmental Assessment Practitioner and Expertise to conduct the Amendment Process	16
5. POTENTIAL FOR CHANGE IN THE SIGNIFICANCE OF IMPACTS AS ASSESSED IN THE EIA AS A RESULT OF THE REQUESTED AMENDMENT	18
5.1. Current State of the Environment	18
5.2. Impacts on Ecology (including fauna, vegetation, soils and agriculture, and freshwater)	23
5.2.1. Conclusion	24
5.3. Impacts on Avifauna	24
5.3.1. Conclusion	25
5.4. Impacts on Bats	25
5.4.1. Conclusion	25
5.5. Visual Impacts	25
5.5.1. Conclusion	26
5.6. Noise Impact	26
5.6.1. Conclusion	28
5.7. Heritage Impacts (including Archaeological Assessment)	28
5.7.1. Conclusion	29
5.8. Socio-Economic Impacts	29
5.8.1. Conclusion	30
6. CONCLUSION AND MOTIVATION FOR APPROVAL OF the REQUESTED AMENDMENTS	31
7. PUBLIC PARTICIPATION	0

LIST OF APPENDICES

Appendix A:	Ecological Specialist Letter
Appendix B:	Bat Specialist Letter
Appendix C:	Heritage Specialist Letter
Appendix D:	Visual Specialist Letter
Appendix E:	Noise Specialist Letter
Appendix F:	Avifauna Specialist Letter
Appendix G:	Socio-Economic Specialist Letter
Appendix H:	Public Participation Documentation
<i>Appendix H1:</i>	<i>I&AP Database</i>
<i>Appendix H2:</i>	<i>Advertisements and Site Notices</i>
<i>Appendix H3:</i>	<i>Consultation with Organs of State</i>
<i>Appendix H4:</i>	<i>Consultation with I&APs</i>
<i>Appendix H5:</i>	<i>Comments Received</i>
<i>Appendix H6:</i>	<i>Comments & Response Report</i>
Appendix I:	Maps
Appendix J:	Environmental Team CVs

PURPOSE OF THE REPORT

Mulilo Springbok Wind Power (Pty) Ltd has requested an amendment to an existing Environmental Authorisation (EA) for the authorised 55.5MW Springbok Wind Power Generation Facility and Associated Infrastructure (DFFE Reference: 12/12/20/1721, EA issued on the 27 July 2011). The project is located on the following properties: Farm 132 Portion 0 (Remaining extent); Farm 132 Portion 1 (Remaining extent); and Farm 635 Portion 0 within the Nama Khoi Local Municipality in the Northern Cape Province. The amendment being applied for relates to an extension of the validity of the Environmental Authorisation by an additional 5 years.

An application for amendment has been submitted to the Department of Forestry, Fisheries and the Environment (DFFE). Additional information has been requested (in terms of Regulation 30(1)(a) of the EIA Regulations, 2014 as amended) for the Department to be able to process the application for amendment. Savannah Environmental, as independent consultant, has prepared this Site Verification and Motivation Report in support of the application for the proposed amendments on behalf of Mulilo Springbok Wind Power (Pty) Ltd.

This report aims to provide details pertaining to the environmental impacts as a result of the requested amendment in order for interested and affected parties to be informed and submit comments for the competent authority to be able to reach a decision in this regard. This report is supported by specialist site verification and motivation reports to inform the conclusion and recommendations regarding the proposed amendment (refer to **Appendix A** and **G** of this report). This Site Verification and Motivation Report must be read together with these specialist reports (as well as the original specialist assessments conducted during the EIA process) to obtain a complete understanding of the proposed amendments and the implications thereof from an environmental perspective.

This Motivation Report has been made available for a 30-day review and comment period in accordance with Regulation 32(1) (aa) of the EIA Regulations, 2014 (as amended) from **Thursday 13th April 2023** to **Monday 15th May**. The availability of the Motivation Report for the 30-day comment and review period was communicated via email and/or mail to all registered I&AP's and advertised in the **Gemsbok Newspaper** on **Friday 14th April 2023**.

The Motivation Report is available for download from Savannah Environmental's website: <https://www.savannahsa.com/public-documents/energy-generation/>. To register on the project database as an interested and affected party, as well as obtain further information about the project, or submit written comments, please contact:

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All comments received during the 30-day review and comment period will be included within a Comments and Responses Report (C&RR) to be submitted to the DFFE with the Final Amendment Motivation Report for consideration and decision-making.

1. OVERVIEW OF THE PROJECT

1.1. Location

The proposed project site is located just outside of Springbok and falls within the jurisdiction of the Namakwa District Municipality and Nama Koi Local Municipality (see **Figure 1.1**). The project is located on the following properties: Farm 132 Portion 0 (Remaining extent); Farm 132 Portion 1 (Remaining extent); and Farm 635 Portion 0.

The Springbok WEF site is accessible via regional and rural roads off the main roads in the area, namely the N7, N14 and R355. Access to the site will be via an existing access road off the Concordia Road (D208). The site is located in proximity to the major Eskom substation, Nama, which potentially provides the opportunity for good grid connectivity.

The following infrastructure and developments associated with the WEF have been authorised by the Department of Forestry, Fisheries and the Environment (DFFE) (DFFE Reference: 12/12/20/1721):

- » Number of turbines: Maximum of up to 25
- » Generation Capacity per turbine: 2.0 – 6MW
- » Generation capacity of WEF: 55.5MW
- » Rotor Diameter: 160m
- » Hub Height: Max of 140m (except for turbines 4, 8, 15 & 16 which have a hub height of 105m)
- » Temporary construction pad: 40x20m
- » Permanent affected area (foundation size): 16x16m and 3m deep
- » The total wind farm is spread over an area of 350 hectares, with the required spacing between turbines of 200 to 600 metres, depending on terrain topography and main wind direction.

1.2. Status (baseline) of the Environment assessed through the Environmental Impact Assessment (EIA) Process (EIA report, December 2010)

The findings of the specialist studies undertaken during the EIA undertaken in 2010, assessed both the benefits and potential negative impacts anticipated as a result of the proposed WEF development and concluded that there are no environmental fatal flaws that should prevent the proposed project from proceeding.

Table 1.1 summarises the baseline status of the environment that was assessed through the EIA process in 2010 for the proposed WEF.

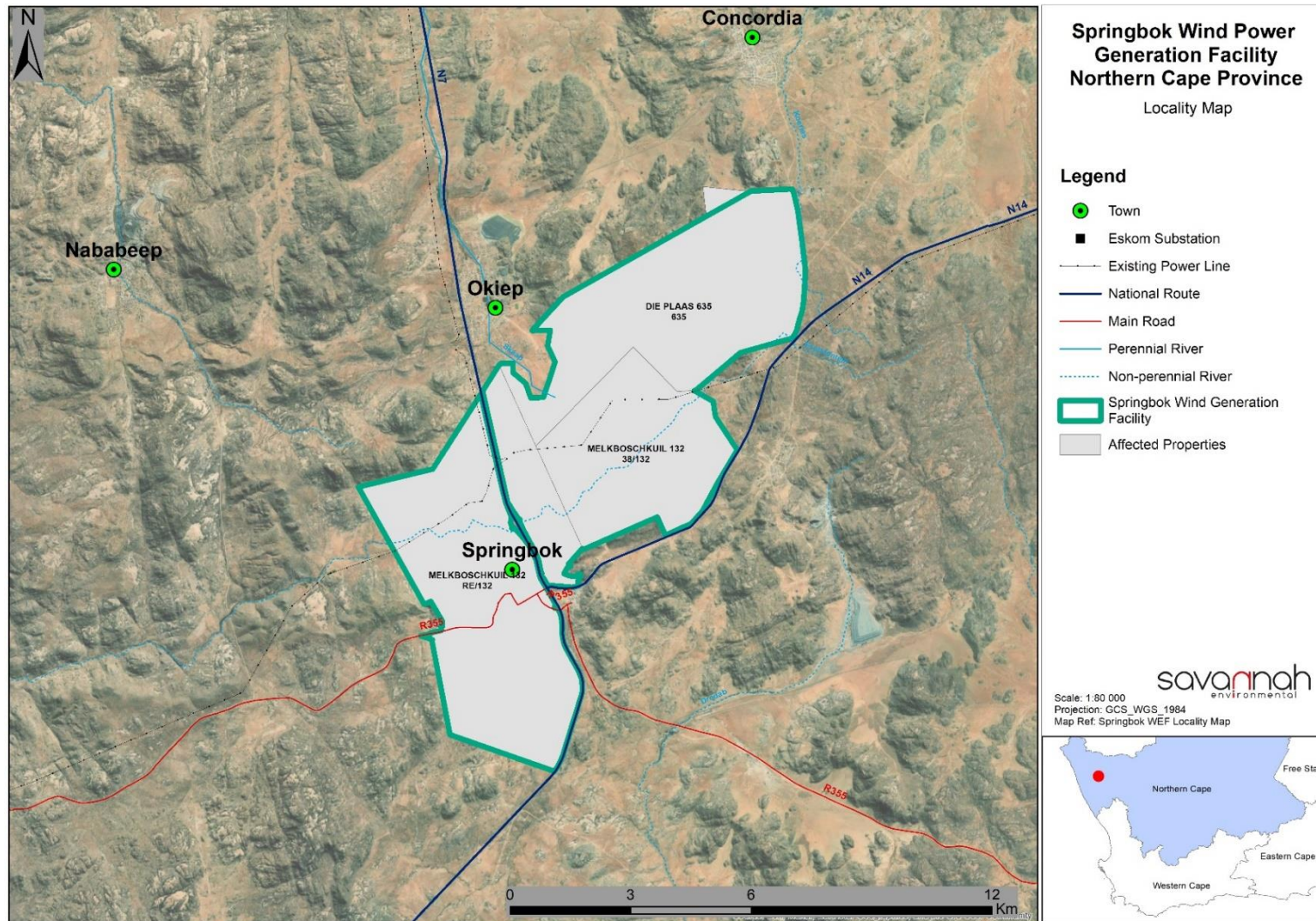


Figure 1.1: Locality map showing the location of the farms associated with the 55.5MW Springbok Wind Power Generation Facility and associated Grid Connection (Note: the actual WEF will cover a much smaller area).

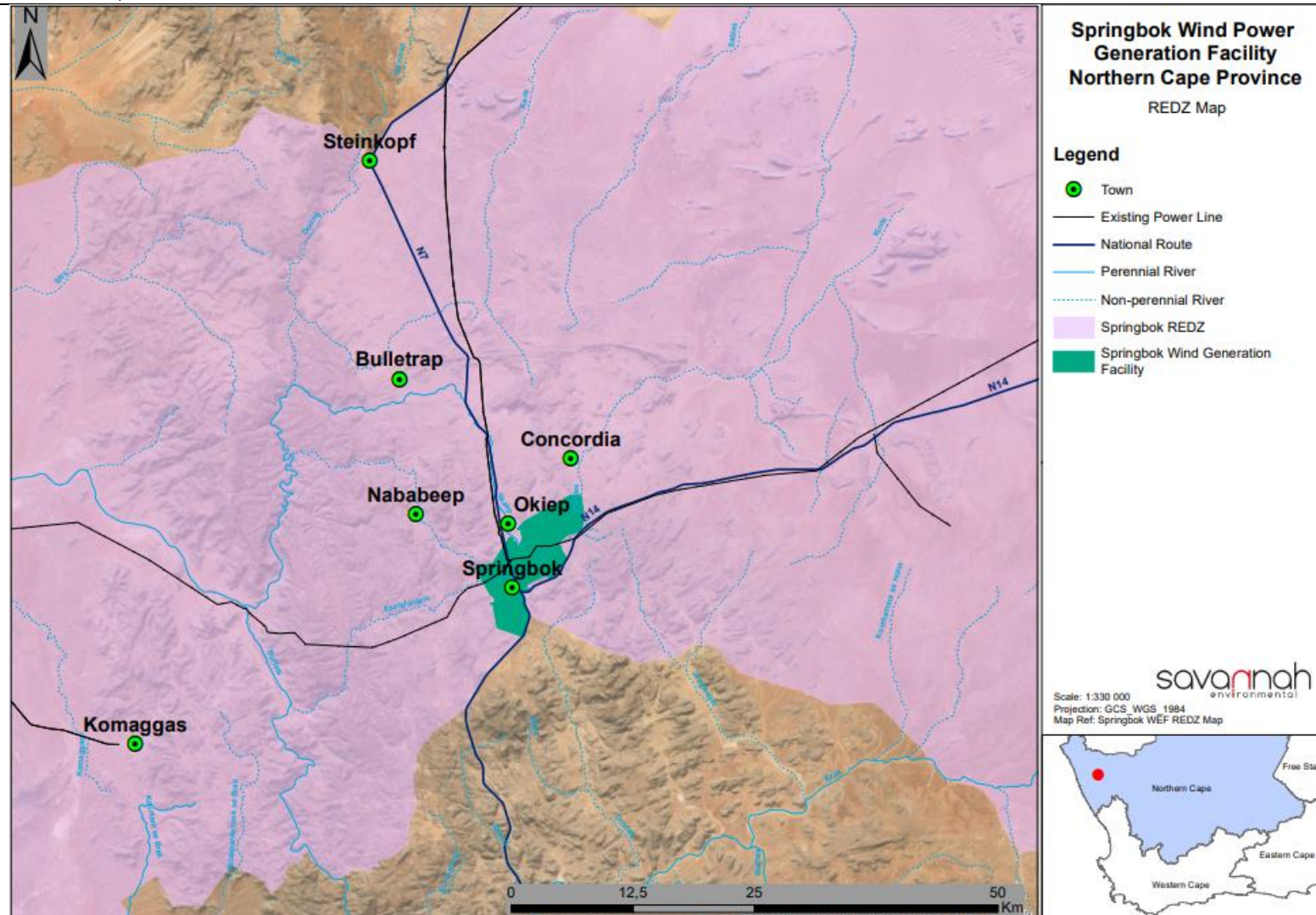


Figure 1.2: Locality map showing the location of the 55.5MW Springbok Wind Power Generation Facility within the Springbok Renewable Energy Development Zone (REDZ).

Table 1.1: Baseline status of the environment assessed through the EIA process

<p>Topography and site extent</p>	<p>Springbok lies in the Nama Karoo and is characterised by arid and rugged relief. Weathered sandstone covers most of the hillsides. The hills are fissured and weathered by seasonal streams. Isolated hills are clustered together in groups and ridges. Springbok lies at 850- 880m above sea level (asl).</p> <p>The local geology is composed of sedimentary rocks, sandstones and shales. The hilly areas have highly leached red soils in wetter areas whilst on the lowveld reddish brown, gravelly soils predominate. Soils adjacent to rivers provide the most suitable soil for agriculture. There are no major rivers in the vicinity, although there are a number of small streams. According to a baseline botanical study undertaken by Helme (2009), the site is located within the Succulent Karoo biome. The study area falls within the Namaqualand escarpment bioregion, which is a relatively high rainfall part of Namaqualand.</p> <p>The site is located within an existing farm which is zoned for Agricultural purposes. The closest substation is the Nama substation, which is located 5 kilometers from the general study area. Existing roads and tracks exist in most of the study areas.</p>
<p>Environmental Considerations</p>	<p>The total wind farm is spread over an area of 350 hectares, with the required spacing between turbines of 200 to 600 metres, depending on terrain topography and main wind direction.</p> <p>The bulk of the disturbance will be on land that has been used for grazing. Riparian areas and drainage channels will be avoided. however, it may be necessary for some roads to cross drainage channels and other sensitive areas. Vegetation clearance results in habitat destruction and therefore affects biodiversity. The residual impacts associated with fauna and flora is considered to be "low" and is based on the contractors commitment to the implementation of mitigation measures and rehabilitation outlined in the EMPr and respective specialist studies.</p>
<p>Land use type</p>	<p>The site has been zoned as agriculture. According to the EIA conducted in 2010, the proposed site does not have any agricultural value and has for many years not been utilized for any agricultural purposes. The area is mostly covered by <i>Galenia Africana</i> (Kraalbos) an unpalatable plant and to domestic animals harmful. Irrigation on this dry and arid area is excluded due to the unavailability of water. The site is ideally situated for a wind energy facility as it is near a Eskom Sub-supplier which will ease integration with the national power grid</p> <p>The Goepap Nature Reserve Springbok is situated due east in close proximity to the project site, the N7 and N14 highways and mountainous land separate the Nature Reserve and the greater project site boundaries. (see Figure 1.3). The Smorgenskadu Nature Reserve is located 33km east of the site, the Areb Nature Reserve is located 33km east of the site, the Marietjie van Niekerk Nature Reserve is located approximately 45km east of the site and the Karas Nature Reserve is located approximately 45km east of the site. The Gamsberg Nature Reserve is located approximately 100km northeast of the site. The Pleroma Nature Reserve 30km south of the site. The Namaqua National Park approximately 40km southwest of the site. The Kamnap Oos Protected Environment 37km northwest of the site and The Richtersveld National Park approximately 90km northwest of the site.</p> <p>Other Renewable Energy Facilities in the area includes the operational Kangas Wind Farm 40km west of the site. According to the Renewable Energy EIA Application Database for SA, the following renewable energy projects within a 60km radius of the proposed Springbok WEF have received Environmental Authorisation: O’Kiep 2 PV Solar Energy Facility; the 19 Mw Photovoltaic Solar Energy Facility on Portion 1 and 3 of the farm Melkboschkuil 132; Kokerboom Photovoltaic Solar Power Facility; and the 300MW Kap Vley WEF and its associated infrastructure.</p>

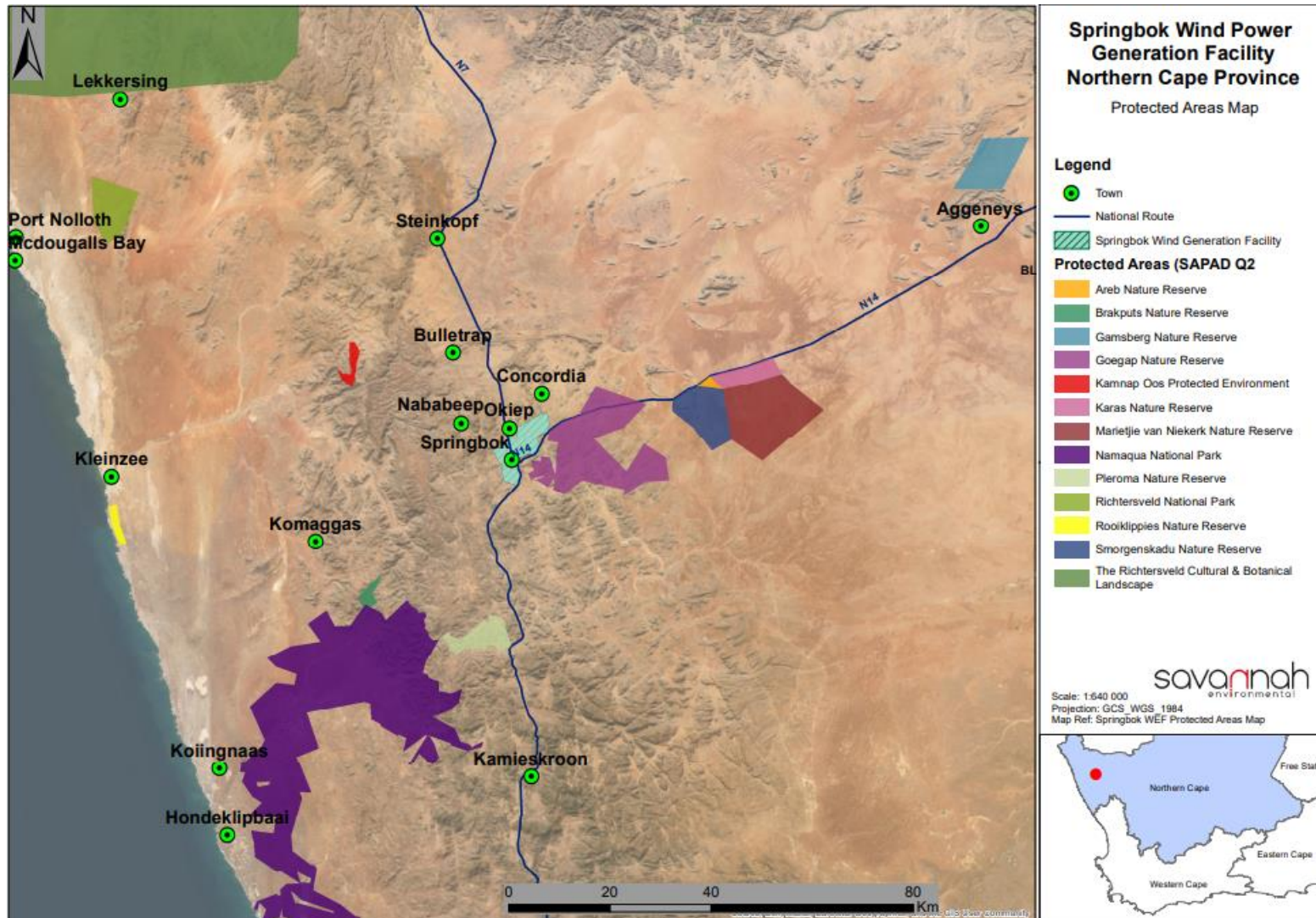


Figure 1.3: Locality Map showing Springbok WEF relative to Conservation and Protected Sites and The Goegap Nature Reserve in the area.

<p>Heritage, Archaeology and Palaeontology</p>	<p>The findings of the baseline Heritage report (Attwell M. 2010) states that there are no significant heritage buildings on the site, or objects of outstanding significance in the immediate vicinity affected by the proposed wind turbines and related infrastructure. However it noted that there were structures older than 60 years in the vicinity.</p> <p>With regard to the proposed Springbok Wind Energy Facility, the archaeological study has shown that the proposed project is viable given that recommendations and mitigation measures documented in the specialist report are adhered to.</p> <p>The proposed wind farm development site is largely underlain by Late Precambrian (Mid Proterozoic) basement rocks - granites and gneisses of the Namaqua-Natal Metamorphic Belt - that are unfossiliferous. There is a slight chance of Neogene (Late Tertiary) to Pleistocene terrestrial or freshwater fossils such as mammalian remains, plant material or trace fossils (e.g. calcretised termitaria) being exposed by excavations into older superficial deposits such as alluvium, calcretised soils or pan sediments. However, the proposed wind farm development and associated gravel road construction would not involve deep excavations and are unlikely to have any substantial impact on the very sparse local fossil heritage.</p>
<p>Visual</p>	<p>The Visual and Landscape specialist report conducted for the EIA during 2010 identifies the new development will provide land uses very different to existing site land uses and to uses in the immediate locality. The development will be extensive and close to groups of receptors. This is evidenced by the Zones of Theoretical Visibility. Also noted is that many views from more remote parts of the visual envelope are mitigated by distance.</p> <p>Concluding that wind farms should not be judged solely on their visual properties, indeed they may be greatly valued for other qualities such as what they symbolise. And although a wind farm is clearly a man made structure, what it represents may be seen as a positive addition to the landscape. It could become a landmark for people travelling, living and working locally. Despite this, aesthetic design remains very important. This Wind Farm will be highly visible, and it has been shown that it will have a high impact on receptors in the adjacent settlements, towns and villages, and rural areas. Any new transmission corridors would have a high visual impact but are mitigated by being placed in a valley and by being short in length. Pylons are preferred to monopoles, as they are used locally. It is accepted that the visual impact will be rated as high for people living and working locally; the impact would be moderate for tourists using the N7 and for receptors to the west of the N7.</p>
<p>Industry and Economic Stimulus</p>	<p>The Nama Khoi LM had a total population of 59,257 in 2010 and an average annual population growth rate of 1.1% (1996-2008). Although the unemployment rate is only 29.9%, the not economically active population amounts to 38.6%. The low skills levels (22% of labour force is unskilled workers) together with the low annual household income (72% of households earn low-income annual salaries) creates an urgent need to increase economic growth through the absorption of the current labour force. This will however be challenging due to the lack of required skills in the municipal region. The annual economic growth rate was approximately 2.3% between 1998 and 2008 therefore a concerted effort will be required to attain the National 6% growth objective. Most active economic sectors are mainly in the form of the mining sector and the government services sector.</p> <p>The Northern Cape area has large tracts of land which are very dry and farmers do their best to earn a living from the land. The towns are small and operate on a survival socio-economic level. The need to improve the quality of life for all, and especially for the poor, is critical in South Africa. It is expected that the proposed project will contribute directly to the upliftment of the individuals and the societies in which they live. During project development by Mulilo, skills development and transfer will be one of the top priorities and local community involvement will be enhanced as far as possible.</p>

	<p>The development of the renewable energy facility will result in significant spending in South Africa having a positive impact on the national, regional and local economy to varying degrees. Direct impacts such as employment and procurement associated with the project will have the most significant impact when compared to indirect and induced impacts. However, overtime as the renewable sector develops additional benefits to the national economy may accrue as the supply chain to the renewable energy sector develops. The direct impacts will be most significant during the construction phase of the project, and are likely to have the largest influence on the local economy.</p>
Site access	<p>The site is directly accessible off the N14 at KM5.4E, however the Carolusberg Road at the existing farm track approximately 70 metres to the west of the N14 intersection is recommended access during construction to alleviate possible traffic issues. During operation access to the bulk of the wind turbines will be via an existing access road off the Concordia Road (D208). Access to the site is via an existing rural road network. To accommodate additional traffic, specifically heavy construction vehicles, some of the smaller farm roads will have to be rebuilt.</p> <p>An existing internal gravel road network will be used by construction vehicles and will be retained throughout the lifetime of the facility for use by maintenance vehicles. Existing roads and tracks will be used, where possible.</p>
Other planned Projects in the area (during EIA Phase)	<p>Several Authorised renewable energy facilities exist in the area surrounding the site of the proposed Springbok WEF. The current facilities can be viewed on the Cumulative Map Figure 1.4. The cumulative impacts were identified during the EIA assessment (conducted 2010 by DJ Environmental Consultants), to fall mainly in the spheres of land use change and visual impact. Based on the findings of all the credible specialists who undertook their respective specialist studies (based on the approved terms of references), it was concluded that the overall impact of this development is low.</p>

1.3. Potential Environmental Impacts determined through the Environmental Impact Assessment (EIA) Process:

From the specialist investigations undertaken as part of the EIA (DEA Reference: 12/12/20/1721) undertaken by DJ Environmental Consultants in 2010 for the Springbok WEF and Associated Infrastructure, the following environmental impacts relevant to the site and to the amendment application were identified and assessed. Following the identification of environmental sensitivities, the following specialist studies were undertaken as part of the EIA process:

- » Ecological
- » Avifaunal
- » Bats
- » Heritage, Archaeology and Palaeontology
- » Visual,
- » Heritage,
- » Noise
- » Socio Economic

According to the EIA (DJ Environmental Consultants, 2010), the management and mitigation of the impacts will result in no significant impacts in the surrounding environment. Based on the findings of all the credible specialists who undertook their respective specialist studies (based on the approved terms of references), it

was concluded that the overall impact of this development is low. The impacts during the construction and operational phases are summarised below and will occur over a localised extent.

The key conclusions and recommendations of the original EIA pertinent to this application, as reported in the EIA are summarised as follows.

1.3.1. Summary of environmental findings in the Environmental Impact Assessment (2010)

i) Ecological Impacts

The botanical impact assessment undertaken by Helme (2010) has identified areas of Low, Medium and High Sensitivity. Most of the vegetation (approximately 80%) is undisturbed and are located predominantly of the hills and ridges. The more disturbed areas are located on the lower lying areas.

» *High Sensitivity Areas (No Go Areas):*

Approximately 12% (i.e. 38-ha) of the site has been identified as High sensitivity areas and therefore, no-go areas. These areas are home to localized species and Species of Conservation Concern (SCC). The habitats are large exposed rocks with shallow grit pans, shallow soils and groups of boulders on steep slopes as well as quartzitic ridges or patches.

» *Medium Sensitivity Areas*

Sixty six percent (66%) of the site is considered to be of Medium botanical sensitivity. Although undisturbed, natural and intact these areas do not support SCC. Species such kokerbome (*Aloe dichotoma*), which is a protected species may establish itself in these areas.

» *Low Sensitivity Areas*

The remainder of the site is deemed to be of Low sensitivity as it does not support any SCC and is generally found on the lower lying plateaus.

Vegetation on the WEF site would be impacted by the clearing of vegetation for the establishment of wind turbines, PV locations, access roads, a lay-down area, substation site and operation and maintenance building during the construction phase. Mitigation to minimise the effects of loss of natural vegetation begins at the design phase by avoiding sensitive areas and limiting the disturbance or destruction of vegetation in those areas. Potential impacts associated with construction and maintenance activities should be minimised by the development and effective implementation of a Construction Environmental Management Programme (EMPr).

The potential Impacts associated with vegetation loss are closely linked to potential impacts on fauna at the WEF site since the determinant of the abundance of most animals is habitat quality. Construction phase activities that will impact animal life include site clearance for establishment of the WEF, increased human activity, increase in noise, dust generation, increased potential for soil erosion and increased traffic.

Mitigation to minimise the impacts on fauna, as with loss of vegetation, begins at the design phase by avoiding sensitive areas and limiting the disturbance or destruction of habitat in those areas.

ii) Avifauna Impacts

The potential impacts on birds resulting from the establishment of the wind energy facility include impacts associated with mortality through collision with turbines, habitat loss and disturbance or displacement from foraging or nesting areas.

According to the baseline avifaunal report, the area is likely to support "over 135 bird species (sp) including 7 red-listed species, 13 waterfowl species and 40 endemics". The red-listed species are more likely to be impacted due to their size and the location of the proposed turbines on cliffs and hill tops.

The species of greatest relevance are:

- » waterbirds,
- » bustards, and
- » Raptors.

Recommended mitigation and future monitoring measures were included in the specialist report regarding the layout and final design of the WEF to ensure minimal negative impacts on avifaunal SCC's. A detailed monitoring of bird mortality is recommended due to the presence of high collision risk and threatened birds in order to test whether mitigation ideas are (i) worthwhile and (ii) effective in reducing bird mortality and rotor damage.

iii) Impacts on Bats

Impacts associated with habitat loss, collisions with turbines and barotrauma may impact bats in the area.

Construction phase impacts could result in disturbance or displacement of species and loss of foraging habitat associated with clearing of vegetation as well as noise and dust generated from construction activities. The construction phase is short-lived for specific areas as construction progresses across the site should be completed in approximately 12 months.

The operation of the WEF may result in the disturbance to and/or displacement of bats from foraging or roosting areas due to blade movement, noise of rotating turbine blades.

Mortality in collisions with turbine blades and/or power lines, or by electrocution on new power infrastructure. Mortality from barotrauma is also a possibility. Collision mitigation measures are aimed at reducing the risks of bats colliding with turbines by erecting wind turbines in places of little or no bat activity such as at the site.

A correlation between bat fatalities and height of wind turbine is reported in the study, where taller turbines are likely to cause more fatalities. Another correlation is wind speed and bat fatalities. During low wind conditions bats are more likely to be active and therefore keeping turbine blades stationary during these periods would reduce fatalities. Bats species noted in the area are *Pipistrellus rusticus* and *Pipistrellus hesperidus*. Given that construction, operation and decommissioning activities will mainly take place during the day when bats are not active, excessive noise could still disturb the roosts.

Bat numbers were reported to be low in the area and therefore the probability of bats being impacted is low.

iv) Noise Impacts

The potential noise impacts associated with the proposed WEF include noise resulting from construction related activities and noise generated by wind turbine operation.

The cumulative noise contribution of the wind turbines and the transformer substation on the noise environment in the communities around the site was found to be within acceptable levels and will result in noise levels below the SANS guidelines for rural areas. The overall significance for noise impacts was rated as low.

v) Visual Impacts

A visual impact assessment (VIA) undertaken by Viridian Consulting (2010) assessed anticipated visual impacts ascertaining the following:

- » The viewshed for the proposed development is defined by a 25km radius from the site.
- » The visibility of the proposed development is influenced by the height of the turbine, the low shrub cover and proximity to the receptors. The already cluttered landscape will be further cluttered with the addition of the turbines. No visual composition opportunity will exist. Although the turbines will be placed on the highest ridge, this will not be apparent from the ground.
- » Large areas will be impacted and hence the zones of visual influence are rated as 'high'. The town of Springbok and the village of Bersig will be affected visually and is rated as moderate- high. Aircraft warning lights will also be visible at night to receptors near the village and town.

It is important to note that whether the visual impact is seen as positive or negative is highly subjective, and people's attitude towards and perception of the visual impacts associated with the WEF may differ vastly.

vi) Heritage and Archaeological Impacts

The findings of the baseline Heritage report (Attwell M. 2010) states that there are no significant heritage buildings on the site, or objects of outstanding significance in the immediate vicinity affected by the proposed wind turbines and related infrastructure. However it noted that there were structures older than 60 years in the vicinity.

The dispersed distribution and very low numbers of archaeological remains located during the study resulted in the site rated as low significance in terms of Archaeological resources.

Chance find procedures and objective mitigation measures to minimise impacts on archaeology, palaeontology and cultural heritage and ensure opportunities to identify and add to new scientific information should be undertaken in line with the EMPr and specialist recommendations.

vii) Socio-Economic Impacts

The socio-economic impact assessment conducted during October 2010 for the proposed wind farm development, in general revealed that the development has the potential to attract an influx of local money into the area. This would have a positive impact on the economic growth of the area. The proposed

wind farm development will thus have a positive effect on the stimulation of the local economy. This would trickle down into the socio-economic environment through the decrease in local unemployment levels, increase standard of livings and provide much needed skills to the unemployed.

It should be noted that although the proposed wind farm development has a high capital investment (between R 1.073 billion and R 1.099 billion), the overall socio-economic impacts on the local region is relatively low. This was found to mainly be due to the fact that 80% of the machinery and equipment will be sourced from outside of the area as well as the low number of employment opportunities (during the construction phase as well as the operational phase) to be generated. Although the socio-economic impacts is relatively low for this wind farm development, other potential spin-offs related to the development of the wind farm outside of the town of Springbok include aspects such as a potential increase in tourism activities for people wanting to come see the wind farm. The increase in tourism will include associated tourism and economic benefits such as the increase for overnight accommodation, restaurants and entertainment.

vii) Cumulative Impacts

According to the 2010 EIA, the cumulative impacts will fall mainly in the spheres of land use change and visual impact. Based on the findings of all the credible specialists who undertook their respective specialist studies (based on the approved terms of references), it was concluded that the overall impact of this development is low. This development has been reviewed by using the triple bottom line approach, which clearly shows that this is a sustainable development with a balance between the biodiversity, social and economic elements.

In light of the proliferation of wind energy facilities along South Africa's west coast on high lying areas, cumulative impacts are of concern particularly for the Black Harriers and the Booted Eagle. While site specific mitigation can be implemented, cumulative impacts are likely to become significant when a number of wind farm developments are located in key habitat types or affect specific bird species considered as high conservation importance or species considered being vulnerable to wind farms by virtue of their behaviour or ecology.

The cumulative noise contribution of the wind turbines and the transformer substation on the noise environment in the communities around the site Were found to be within acceptable levels and will result in noise levels below the SANS guidelines for rural areas.

Benefits to the local, regional and national economy through employment and procurement of services could be substantial should all the renewable energy facilities proceed. This benefit will increase significantly should critical mass be reached that allows local companies to develop the necessary skills to support construction and maintenance activities and that allows for components of the renewable energy facilities to be manufactured in South Africa.

The cumulative impact in terms of loss of agricultural land is unlikely to be significant due to the limited land take and in most cases agricultural activities would be allowed to proceed.

The cumulative visual impact and impact on landscape character resulting from the other known wind farms in the area may be less significant due to large distances between the facilities.

Through the management and mitigation of identified project related impacts, the negative effects of cumulative impacts will be minimized, and benefits of various environmental and social receptors will occur to varying degrees with the development.

2. DESCRIPTION OF REQUESTED AMENDMENT

This section of the Motivation Report details the amendments considered within this report and by the specialist site verification investigations (refer to **Appendix A - G**). The amendment being applied for relates to the validity of the EA dated 27 July 2011. The requested amendment will result in the extension of the validity period of the Environmental Authorisation by an additional 5 years. The amendment requested is detailed below. Motivation for the amendment is included in Section 3 of this report.

2.1. Amendment 1: Extension of the validity of the Environmental Authorisation

Mulilo Springbok Wind Power (Pty) Ltd is proposing to amend the Environmental Authorisation (EA) for the Springbok Wind Energy Facility, by extending the EA validity by an additional five (5) years. Extension of the validity of the EA will ensure that the EA remains valid for the undertaking of the authorised activities.

The EA Amendment will be completed in terms of Regulation 30(1)(a) of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, including the additional studies and public participation required by the DFFE.

Condition 1.7 of the First Issue Environmental Authorisation, Issued on the 27th of July 2011, DEA Reference 12/12/20/1721 states that:

"This activity must commence within a period of three (3) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

Consequent amendments to extend the validity of the authorisation have been made as follows:

- » 12/12/20/1721 – authorised on the 27 June 2014 extending the validity to the 27th of June 2016
- » 12/12/20/1721/AM3 – authorised on the 18 May 2016 extending the validity to the 27th of July 2018
- » 12/12/20/1721/AM6 – authorised on the 3 August 2018 extending the validity to the 27th of July 2021
- » The most recent 12/12/20/1721/AM8 – 28 June 2021 extending the validity to the 27th of January 2023 which states the following.

"This activity must commence within a period of eleven (11) years and six (6) months from the date of issue of the authorisation (i.e. the EA lapses on 27 January 2023). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

The applicant, Mulilo Renewable Projects Developments (Pty) Ltd submitted an amendment application to DFFE on 26 January 2023, prior to the EA expiry and therefore the EA is still considered valid until a decision on this EA amendment process has been made. The Competent Authority provided Acknowledgement of receipt and guidelines for the Motivation Report 8th February 2023. The applicant thus requests that the Competent Authority amends Condition 1.7 of the original EA (Page 4) as amended (DFFE Reference: 12/12/20/1721/1/AM8; dated 28 June 2021) as follows:

“This activity must commence within a period of sixteen (16) years and six (6) months from the date of issue of the authorisation (i.e. the EA lapses on 27 January 2028). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.”

3. MOTIVATION FOR THE REQUESTED AMENDMENT

The section below describes the motivation for the requested amendment.

3.1. Extension of the validity of the Environmental Authorisation

The 55.5 MW Springbok Wind Energy Facility was originally developed to be built and operated under the government's Renewable Energy Independent Power Producer Programme ("REIPPP"). As the REIPPP has experienced numerous and significant delays in moving forward in the last few years, it has in the past required the project developers to renew the Environmental Authorisation (EA) anticipating that the REIPPP programme would commence again in the near future, which would allow the project to be bid and eventually constructed. In 2021, the project had been assigned to a private off taker, and AM8 was granted to extend the EA beyond 10 years, by an additional 18 months. However, due to recent Eskom grid capacity constraints and the further development and commencement of construction has been suspended to a yet to be determined date.

Nonetheless, the project is still at an advanced stage of development, financing and construction contracting, with vast amounts of monies having been spent to date, including additional environmental specialist work and permitting such as rezoning (an application for which has been submitted).

Furthermore, time is required to realize certain EA pre-construction conditions, such as updating the project's Environmental Management Programme (EMPr) and finalising the site layout. These processes are underway. The finalisation of the EMPr requires a number of tasks, including, for example, site visits and site walk-through surveys with certain specialists (including micro-siting), and plant search and rescue, all of which require investment and time. Additional bird monitoring is also required and is being undertaken to ensure protection of birds and to update the bird monitoring database to be in line with current best practice guidelines.

It should furthermore be noted that the EA for the project has not been lying dormant for 11 years. All specialists undertook a re-assessment of the potential environmental impacts associated with the project in 2014/2015, and again in 2017/2018, as part of the "Part 2" Application for amendment of the EA processes, the latter which was granted by the Department on 25 June 2018. No significant changes to the receiving environment have occurred since the time of the issuing of the EA, and, in light of the re-assessments undertaken in 2014/ 2015, and again in 2017/2018, and now again in 2023 the potential environmental impacts associated with the project and receiving environment are well understood.

Due to the above progress, and taking into consideration the current severe national electricity generation capacity constraints and ongoing loadshedding, the project remains valuable to the applicant, as well as to the South African energy mix, as wind farms are a vital component in the energy mix for the latest Integrated Resource Plan (IRP2019) released by the Department of Energy. The extension of the validity period of the EA is therefore to allow the applicant more time to realize certain EA pre-construction conditions (as outlined above), tender the project in a REIPPP process or finalise a private power purchase agreement and to keep the project in a construction ready state so that when Eskom capacity is available the project can be implemented. This will help to ensure the project realizes its potential to deliver clean renewable energy to the South African economy.

4. CONSIDERATIONS IN TERMS OF THE REQUIREMENTS OF THE EIA REGULATIONS AND DFFE

In terms of Conditions 1.7 of the EA dated 27 July 2011 and Regulation 29 of the EIA Regulations 2014, as amended, it is possible for an applicant to apply, in writing, to the competent authority for an amendment of the environmental authorisation if the amendment will not change the scope of a valid environmental authorisation nor increase the level or nature of the impact. The amendment to extend the EA validity will not increase the level, nature or significance of impacts which were initially assessed, and the amendment will take place within the authorised development footprint therefore not impacting on any additional stakeholders. An application in this regard has been submitted to the DFFE who have confirmed that the application falls within the ambit of a Part 1 amendment process.

Further to the receipt of the application, the DFFE have requested additional information be provided in the way of a site verification and motivation report, and that a public participation process is required to be undertaken in support of the application.

The results of the review of all specialist studies undertaken in 2010, and a current assessment, including a site verification evaluation providing an indication of the status of the receiving environment (by the relative specialists) is included in **Section 5**.

4.1. Details of Environmental Assessment Practitioner and Expertise to conduct the Amendment Process

In accordance with Regulation 12 of the 2014 EIA Regulations (GNR 326), the applicant, Mulilo Springbok Wind Power (Pty) Ltd has appointed Savannah Environmental (Pty) Ltd as the independent environmental consultant responsible for managing the Application for Amendment; inclusive of the required independent specialist studies and public participation process.

Neither Savannah Environmental nor any of its specialists are subsidiaries or are affiliated to the applicant. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed facility.

Savannah Environmental is a specialist environmental consulting company providing a holistic environmental management service, including environmental assessment, and planning to ensure compliance and evaluate the risk of development, and the development and implementation of environmental management tools. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team. The Savannah Environmental team for this project includes:

- » **Jo-Anne Thomas**, the principal EAP on this Project, is a registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA - 2019/726). She provides technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Her key focus is on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic

assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures.

- » **Michael Morreira** works as an Environmental Consultant at Savannah Environmental. Michael has 11 years of experience working in Nature Conservation, managing eco-tourism ventures and game reserves. Michael holds a National Diploma and a B-tech Degree in Game Ranch Management. Michael also holds a full Internationally recognised MBA with a specialisation in Sustainable Development and International Business. Since 2020 – Michael has been working as a consultant conducting Environmental Impact Assessments, Environmental Social Governance and Sustainability Due Diligence and Assurance Assessments, Environmental Permitting processes and a number of related tasks.

5. POTENTIAL FOR CHANGE IN THE SIGNIFICANCE OF IMPACTS AS ASSESSED IN THE EIA AS A RESULT OF THE REQUESTED AMENDMENT

The DFFE in reference to Regulation 30(1)(a) requires assessment of the impacts related to the proposed amendments. Understanding the nature of the proposed amendments and the impacts associated with the project (as assessed within the EIA), the following has been considered:

- » Ecology
- » Avifauna
- » Bats
- » Visual impacts
- » Impacts on heritage, and archaeological resources
- » Noise impacts

The potential for change in the significance and/or nature of impacts based on the proposed amendment as described within the site verifications undertaken by the various specialists and this Motivation Report is discussed below and detailed in the specialist's assessment reports (conducted in 2023) contained in **Appendix A - G**¹. This section of the Motivation Report must be read together with the specialist reports contained in **Appendix A - G** in order for the reader to obtain a complete understanding of the proposed amendments and the implications thereof.

5.1. Current State of the Environment

Table 1.2 summarises the current status of the project environment.

Table 1.2: Current status of the environment

Topography and site extent	The topography and extent of the site remains unchanged as assessed in the EIA process.
Environmental Considerations	<p>The total wind farm is spread over an area of 350 hectares, with the required spacing between turbines of 200 to 600 metres, depending on terrain topography and main wind direction.</p> <p>The bulk of the disturbance will be on land that has been used for grazing. Riparian areas and drainage channels will be avoided. however, it may be necessary for some roads to cross drainage channels and other sensitive areas. Vegetation clearance results in habitat destruction and therefore affects biodiversity. The residual impacts associated with fauna and flora is considered to be "low" and is based on the contractors commitment to the implementation of mitigation measures and rehabilitation outlined in the EMPr and respective specialist studies.</p> <p>It is the opinion of the specialist that based on the observations made during the field survey (April 2023), that the ecological importance of the site has not decreased considerably, although there is evidence of degradation through livestock.</p>
Land use type	The site has been zoned as agriculture. According to the EIA conducted in 2010, the proposed site does not have any agricultural value and has for many years not been utilized for any agricultural purposes. The area is mostly covered by Galenia Africana (Kraalbos) an unpalatable plant and to

¹ It must be noted that the original specialists who undertook the EIA studies and subsequent amendments have been used for these assessments as far as possible. However, where the original specialists were not available for whatever reason, suitably qualified and experienced specialists have been used to provide an assessment of the proposed amendments.

	<p>domestic animals harmful. Irrigation on this dry and arid area is excluded due to the unavailability of water. The site is ideally situated for a wind energy facility as it is near a Eskom Sub-supplier which will ease integration with the national power grid</p> <p>The Goepap Nature Reserve Springbok is situated due east in close proximity to the project site, the N7 and N14 highways and mountainous land separate the Nature Reserve and the greater project site boundaries. (see Figure 1.3). The Smorgenskadu Nature Reserve is located 33km east of the site, the Areb Nature Reserve is located 33km east of the site, the Marietjie van Niekerk Nature Reserve is located approximately 45km east of the site and the Karas Nature Reserve is located approximately 45km east of the site. The Gamsberg Nature Reserve is located approximately 100km northeast of the site. The Pleroma Nature Reserve 30km south of the site. The Namaqua National Park approximately 40km southwest of the site. The Kamnap Oos Protected Environment 37km northwest of the site and The Richtersveld National Park approximately 90km northwest of the site.</p> <p>Other Renewable Energy Facilities in the area includes the operational Kangas Wind Farm 40km west of the site. According to the Renewable Energy EIA Application Database for SA, the following renewable energy projects within a 60km radius of the proposed Springbok WEF have received Environmental Authorisation: O’Kiep 2 PV Solar Energy Facility; the 19 Mw Photovoltaic Solar Energy Facility on Portion 1 and 3 of the farm Melkboschkuil 132; Kokerboom Photovoltaic Solar Power Facility; and the 300MW Kap Vley WEF and its associated infrastructure (see Figure 1.4).</p> <p>The Specialist findings of the assessment conducted during April 2023 identify with the baseline findings and the sensitivities as per the Department of Agriculture, Forestry and Fisheries (DAFF, 2017) national raster file concur with one another. The proposed Springbok wind power generation facility is mostly characterised with “Low” to “Moderate” land capability sensitivities. Some small portions in the assessment area falls within “Very Low to Low” sensitivities.</p> <p>It is the specialist’s opinion that the land capability and land potential of the resources in the regulated area is characterised by “Low” to “Moderate” sensitivities.</p> <p>The proposed project area is associated with non-arable lands, due to its soil type and the harsh climatic conditions. Furthermore, the harsh climatic conditions that are associated with high evapotranspiration potential demands of the area consequently result into a very restricted choice of crops due to the heat and moisture stress. The area is not favourable for most cropping practices, which corresponds to the current livestock activity in the area.</p> <p>Therefore, the proposed Springbok wind power generation facility will have little to no impact on the agricultural potential of the project area.</p>
<p>Heritage, Archaeology and Palaeontology</p>	<p>The findings of the baseline Heritage report (Attwell M. 2010) states that there are no significant heritage buildings on the site, or objects of outstanding significance in the immediate vicinity affected by the proposed wind turbines and related infrastructure. However it noted that there were structures older than 60 years in the vicinity.</p> <p>With regard to the proposed Springbok Wind Energy Facility, the archaeological study has shown that the proposed project is viable given that recommendations and mitigation measures documented in the specialist report are adhered to.</p> <p>The proposed wind farm development site is largely underlain by Late Precambrian (Mid Proterozoic) basement rocks - granites and gneisses of the Namaqua-Natal Metamorphic Belt - that are unfossiliferous. There is a slight chance of Neogene (Late Tertiary) to Pleistocene terrestrial</p>

	<p>or freshwater fossils such as mammalian remains, plant material or trace fossils (e.g. calcretised termitaria) being exposed by excavations into older superficial deposits such as alluvium, calcretised soils or pan sediments. However, the proposed wind farm development and associated gravel road construction would not involve deep excavations and are unlikely to have any substantial impact on the very sparse local fossil heritage.</p> <p>The specialist findings concerning the Heritage Screener conducted during February 2023 state that it is very unlikely that the baseline status of the environment has changed since the initial EIA was done in 2010 and then updated in 2018. While Kaplan (2010) did not communicate an impact rating during the initial assessment, the mitigation measures provided in the initial assessment are still applicable. No new mitigation measures should be added to the Environmental Authorisation if the DFFE decides to extend the commencement period as per the application.</p>
<p>Visual</p>	<p>The description of the affected environment, as described in the original VIA report remains unchanged. There have been no change in land use for the proposed development site, no new developments have been constructed on or near the development site, and the land use zonation (agriculture) remains the same.</p> <p>The above conclusion was verified through consultation with the project proponent and the current land owner(s).</p>
<p>Industry and Economic Stimulus</p>	<p>The Nama Khoi LM had a total population of 59,257 in 2010 and an average annual population growth rate of 1.1% (1996-2008). Although the unemployment rate is only 29.9%, the not economically active population amounts to 38.6%. The low skills levels (22% of labour force is unskilled workers) together with the low annual household income (72% of households earn low-income annual salaries) creates an urgent need to increase economic growth through the absorption of the current labour force. This will however be challenging due to the lack of required skills in the municipal region. The annual economic growth rate was approximately 2.3% between 1998 and 2008 therefore a concerted effort will be required to attain the National 6% growth objective. Most active economic sectors are mainly in the form of the mining sector and the government services sector.</p> <p>The Northern Cape area has large tracts of land which are very dry and farmers do their best to earn a living from the land. The towns are small and operate on a survival socio-economic level. The need to improve the quality of life for all, and especially for the poor, is critical in South Africa. It is expected that the proposed project will contribute directly to the upliftment of the individuals and the societies in which they live. During project development by Mulo, skills development and transfer will be one of the top priorities and local community involvement will be enhanced as far as possible.</p> <p>The development of the renewable energy facility will result in significant spending in South Africa having a positive impact on the national, regional and local economy to varying degrees. Direct impacts such as employment and procurement associated with the project will have the most significant impact when compared to indirect and induced impacts. However, overtime as the renewable sector develops additional benefits to the national economy may accrue as the supply chain to the renewable energy sector develops. The direct impacts will be most significant during the construction phase of the project, and are likely to have the largest influence on the local economy.</p> <p>To conclude, Urban-Econ assessed the project during March 2023 and found the proposed amendments and confirms that the proposed extension and changes to the proposed Springbok WEF will not change the scope, nature or level of the impacts and therefore no change to the initial assessment conducted should occur. Furthermore, from a socio-economic perspective there is no reason why the proposed development should not be authorised.</p>

Site access	Approved access to the site is as follows: The primary access point is to the north of the site, off Goodhouse Street (aka the Concordia Road – D208), approximately 4km from O’Kiep (29°34’10.39”S, 17°54’13.41”E). The secondary access point is to the south of the site, off the connecting road between Carolusberg and O’Kiep (aka Carolusberg Road), approximately 5km from Carolusberg (29°36’59.32”S, 17°54’51.53”E). An existing internal gravel road network will be used by construction vehicles and will be retained throughout the lifetime of the facility for use by maintenance vehicles. Existing roads and tracks will be used, where possible.
Other planned Projects in the area (during EIA Phase)	The project site is located within the Springbok REDZ, which was specifically defined as a REDZ for commercial wind and solar PV development. The area was considered favourable by DFFE through their SEA process of defining the REDZ areas. Several Authorised renewable energy facilities exist in the area surrounding the site of the proposed Springbok WEF. The specific facilities can be viewed on the Cumulative Map Figure 1.4 and the REDZ Map Figure 1.2 .

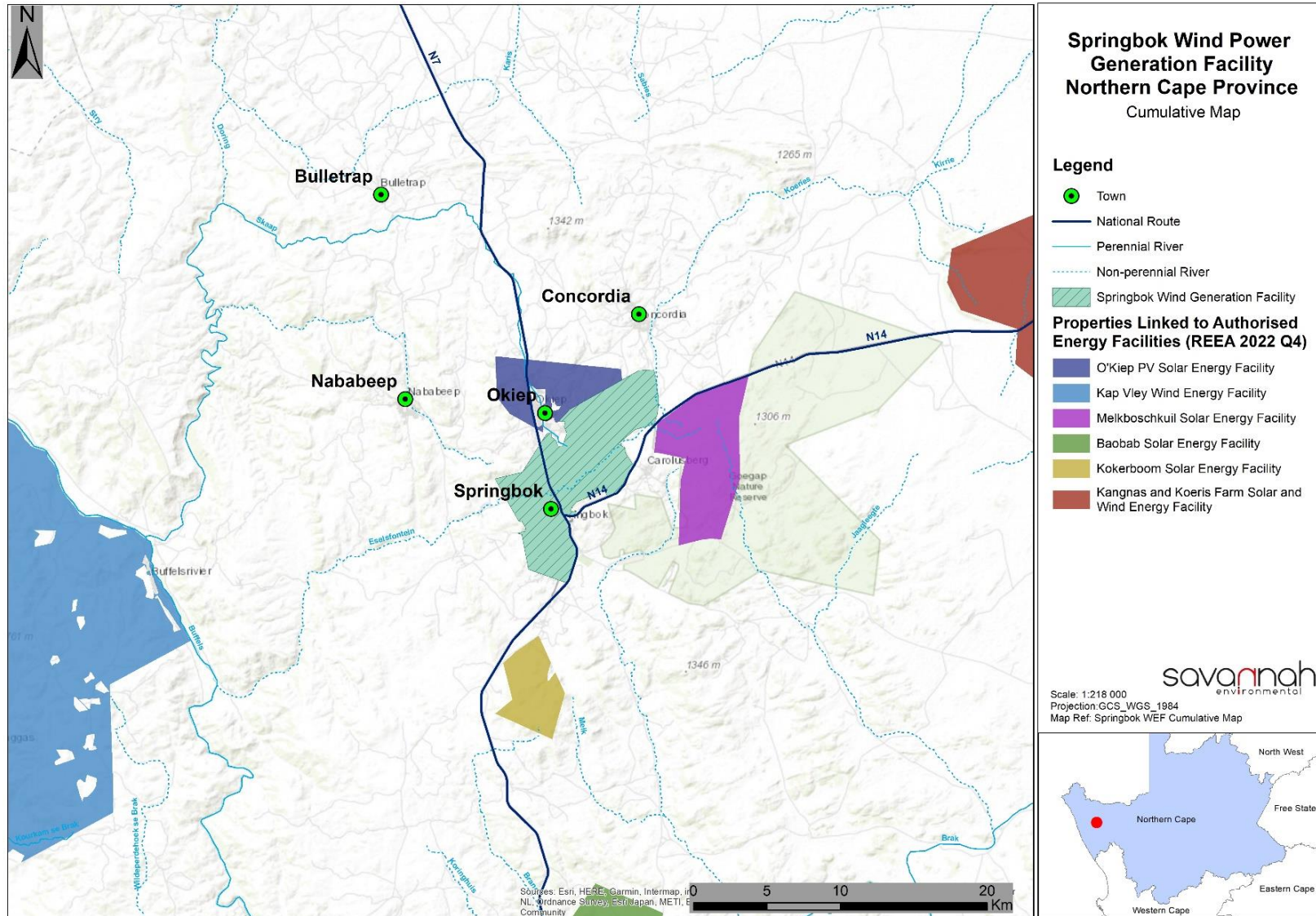


Figure 1.4: Cumulative map showing the authorised development footprint of the 55.5MW Springbok Wind Power Generation Facility relative to other similar developments in the area.

5.2. Impacts on Ecology (including fauna, vegetation, soils and agriculture, and freshwater)

The field surveys for this assessment were undertaken during April 2023 which constitutes a late dry-season survey. Accordingly, flora and fauna that are not active during this period could not be recorded and therefore may influence the results. Nevertheless, based on the previous reports and considering the structure of the habitats and dominant flora species, there is a high level of confidence in the understanding of the present ecological condition.

Vegetation:

- » Few Species of Conservation Concern (SCC) were encountered during the initial site visit. None of these species were observed during the current, albeit this may be attributed to seasonal affects. However, increased livestock presence within the Project Area may also be a contributing factor. There are currently people who have occupied the farm and using it for pastoral purposes.
- » The key habitats are large areas of exposed rock, especially those with shallow grit pans either on the dome or along the fringes, shallow soils surrounding granite domes, dense clusters of boulders on steep slopes (especially those on south slopes), and any quartzitic ridges or patches. This is still applicable to the present report.

Freshwater Ecology:

The Biodiversity Company (TBC) conducted a site assessment followed by a Sensitivity Verification in March 2023. All prescribed mitigation measures and supporting recommendations presented in the specialist assessment will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested amendment to the EA. To this end, measures recommended in the specialist report should be added to the EMPr.

Reptiles:

- » A high diversity of reptile species was expected to occur within the Project Area as indicated in the first assessment. This is attributed to the Succulent Karoo inherently supporting a high diversity of reptiles as well as the varied habitat physiognomy within the Project Area. The present condition of the Project Area is still in congruency with this statement.
- » Two reptile SCC were expected to occur within the project area. *Chersobius signatus* (Speckled Dwarf Tortoise) and *Lamprophis fiskii* (Fisk's House Snake). The previous assessment had recorded the species within the project area and was still confirmed during the present survey. However, at the time of the initial assessment, the species was listed as Vulnerable, but presently it is listed as Endangered. This denotes that there is an increase in the sensitivity of the site within a herpetofauna context. By limiting the presence of livestock and Pied Crows, it is possible that the Project Area will provide a suitable refuge habitat for this species. Consequently, this will be a positive impact.

Chiroptera (Bats):

- » The original bat assessment indicated that the Project Area supported limited bat species and there was no – minimal bat activity. *Pipistrellus rusticus* and *Pipistrellus hesperidus* were the only species recorded. Accordingly, impacts to bat species were not considered to be considerable for this project. Although no passive acoustic techniques were utilised for the present survey, rock crevices and overhangs were examined as potential roost sites. No bat species were observed during the field survey.

5.2.1. Conclusion

It is the opinion of the specialist that based on the observations made during the field survey, that the ecological importance of the site has not decreased considerably, although there is evidence of degradation through livestock. It has also been found that the proposed Springbok wind power generation facility will have little to no impact on the agricultural potential of the project area. Based on the Freshwater risk assessment completed all risks were found to be 'Low' with mitigation. In consideration that the WEF has been previously authorised, it is the specialist recommendation that the proposed development should be Authorised to proceed, under the condition that all mitigation measures provided in the report and previous reports are adhered to.

5.3. Impacts on Avifauna

Birds & Bats Unlimited (BBU) re-assessed several variables with respect to the avifauna associated with this application for an extension of the environment authorisation. Additional pre-construction monitoring programmes conducted in 2021 confirmed that the Springbok environment had not changed, and that the main species of concern was still present, despite the fluctuations in rainfall regime over the years. More importantly, the (smaller) area occupied by the wind farm and the wind turbines continued to exhibit a very low frequency of flights.

The specialist can see no reason that this will change since Verreaux's Eagles are known to concentrate their flights (and foraging) along ridge lines and other slopes that give them orographic lift (Murgatroyd et al. 2020) – thus, they rarely use areas giving them no lift. The terrain of the revised wind farm is gently undulating with no steep cliffs, explaining the very low use of the area, despite the breeding pairs of resident eagles.

The significance of the impact rating is unlikely to have changed for the reasons stated above – the landscape topography is not conducive to Verreaux's Eagle flights, and the presence of subsistence farmers with their flocks of goats will ensure that the Rock Hyrax (the eagles' main prey) will be limited. Goats compete with the hyrax for food and, in this way, limit their numbers, and also affect where the eagles forage and how well they breed.

The Birdlife South Africa guidelines (Ralston and Murgatroyd 2021), revised since 2017, state that turbines should not be closer than 3.7-km from active nests in the absence of VERA (Murgatroyd et al. 2020) having been applied. Based on the very low flight activity apparent between the nests and because of the nature of the undulating topography (away from steep slopes) which is based on several years of Vantage Point observation (which was supported by GPS-tracking one of the breeding eagles) the specialist is confident that the 3.7km buffer as proposed by Birdlife SA is not necessary in this case.

The buffer approach is designed to reduce risk to the eagles (or other species) in the absence of better data. BBU have collected better data that shows that VE flights within the proposed wind farm boundary are 10-fold lower (0.06 flights/hour) than the average for the entire study site (0.63 flights/hour).

Developing turbines here with appropriate mitigations (striped-blade and shut-down on demand (SDOD)) as recommended from the additional monitoring on site will reduce the risk to very low levels.

Cumulative impacts associated with surrounding renewable energy projects are expected to decrease as two proposed renewable energy projects lapsed between 2018 and 2022 (300MW in Victoria West, and the Karen Energy Groenbank Solar Park).

5.3.1. Conclusion

The Specialist have re-assessed several variables with respect to the avifauna associated with this application for an extension to the environment authorisation and concluded that the baseline environment has not changed and see no objection to the EA being extended for the proposed Springbok WEF project with respect to the avifaunal component.

5.4. Impacts on Bats

In addition to this study (April 2023), Animalia Consultants (Pty) Ltd) completed the 12 months pre-construction bat monitoring for the Springbok (WEF) in 2016.

In light of new insights into the impacts and bats and according to more recent sensitivity mapping rules in the South African Best Practice Guidelines for Pre-construction Monitoring of Bats at Wind Energy Facilities (MacEwan, et al., Edition 5, 2020), the current Best Practice Guidelines (MacEwan *et al.*, 2020) requires turbine blade length to be outside the 200m high sensitivity buffers, to allow for no turbine blade length overhang into these buffers.

The current proposed turbine layout has some turbines intruding into high bat sensitivity buffers by the 80m blade overhang, these are turbines 12, 14, 15, 18 and 23. It is critical that these turbines be micrositied prior to construction to have their blade overhang not intrude into the high bat sensitivity buffers.

5.4.1. Conclusion

The receiving environment has not changed significantly, and the impact ratings obtained in the initial assessment and or subsequent amendments remain valid.

In summary, the proposed amendment of extending the EA validity is acceptable from a bat sensitivity perspective if all conditions of the EA are adhered to, an operational bat impact monitoring study is conducted for a minimum of 2 years, and that the Mitigation Action Plan is adhered to and included into the EMPr.

5.5. Visual Impacts

The proposed amendment to the project infrastructure is not expected to significantly alter the influence of the WEF on areas of higher viewer incidence (observers travelling along the roads within the region) or potential sensitive visual receptors (residents of homesteads in closer proximity to the facility).

The proposed amendment to the project is consequently not expected to influence the anticipated visual impact, as stated in the original VIA report (i.e. the visual impact is expected to occur regardless of the amendment). This statement relates specifically to the assessment of the visual impact within a 5km radius of the wind turbine structures (potentially high significance), but also generally apply to potentially moderate to low visual impacts at distances of up to 30km from the structures.

From a visual perspective, the proposed amendment will therefore require no (zero) changes to the significance rating within the original visual impact assessment report that was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

There are no new assessment guidelines which are now relevant to the authorised development which were not undertaken as part of the initial visual impact assessment. Additional to this, and as stated above, there have been no changes to the environment of the proposed development site or the surrounding environment.

It is worth noting that the proposed Springbok WEF is located within the Springbok Renewable Energy Development Zone No. 8 (REDZ8) as determined by the Strategic Environmental Assessment for Wind and Solar Photovoltaic Energy in South Africa (2015 –CSIR/DEA).

REDZ are described as:

“areas where large scale wind and solar PV energy facilities can be developed in terms of SIP 8 and in a manner that limits significant negative impacts on the environment, while yielding the highest possible socio-economic benefits to the country.” (Source: <https://redzs.csir.co.za>)

The consolidation and concentration of the wind energy facilities within this zone is therefore preferred and the cumulative visual impact is deemed to be of an acceptable level i.e. the amendment is not expected to alter the potential cumulative visual impact rating as stated in the original VIA report.

5.5.1. Conclusion

The proposed amendment will require no changes to the impact significance ratings as stated within the original VIA report which was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

It is suggested that the amendment to the project infrastructure be supported, subject to the conditions and recommendations as stipulated in the original EA, and according to the Environmental Management Programme (EMPr) and suggested mitigation measures, as provided in the original VIA report.

5.6. Noise Impact

The original Noise Specialist study was compiled in October 2010 (Dracoulides, 2010) and it was recommended to redo the noise specialist study for the following reasons:

- » the age of the original noise specialist assessment (Dracoulides, 2010), with the original study being older than 10 years;
- » changes in legislation since the original noise specialist study was compiled, specifically the requirements of Government Notice Regulation 320 of March 2020; and
- » a change in the layout of the wind turbine generators (“WTG”), as well as the availability of WTG that have a higher generating capacity.

Residential areas and potential noise-sensitive developments/receptors/communities (“NSR”) were identified using aerial images as well as a physical site visit, with a number of potential noise-sensitive

receptors identified in the vicinity of the proposed wind farm. A site visit was conducted 2 and 3 March 2023 to define the status of all potential NSR identified for this assessment. A number of residential dwellings are located within 2000 m from the closest wind turbines of the wind farm. There are also a number of structures scattered around the proposed WEF. While the western areas can be considered urban to sub-urban, most of the surrounding areas can be considered wilderness with scattered residential uses. Typical noises associated with denser urban areas might influence ambient sound levels at residences within Okiep, located just west of the site.

Considering the ambient sound levels measured onsite (during the 2010 original assessment), the proposed noise limits as well as the calculated noise levels, it was determined that the significance of the potential noise impacts would be:

- » of a low significance for the daytime construction activities (hard standing areas, excavation and concreting of foundations and the assembly of the WTG and other infrastructure);
- » of a potential medium significance for the night-time construction activities (the pouring of concrete, erection of WTG). Mitigation is available and presented in the specialist assessment that would reduce the significance of night-time noise impacts to low;
- » of a medium significance for daytime operational activities (noises from wind turbines) when considering the worst-case SPL. Mitigation is available and presented in this assessment that would reduce the significance of night-time noise impacts to low; and
- » of a high significance for night-time operational activities (noises from wind turbines) when considering the worst-case SPL. Mitigation is available and presented in the specialist assessment that would reduce the significance of night-time noise impacts to low.
- » As per the latest available Renewable Energy EIA Application database (3rd quarter, 2022), there are two wind projects, approximately 24 km to the east and 32 km to the west. At this distance these projects will not cumulatively contribute to noise levels in the vicinity of the Springbok project. There is therefore a low significance for a cumulative noise impact to occur during the operational phase.

The significance of the noise impact will be of a low significance during the daytime period, though there is a potential of a noise impact of medium significance for night-time construction activities. Mitigation measures are recommended to ensure that the potential annoyance due to noise are minimized. Potential measures could include:

- » Minimizing night-time activities when working within 2000 m from NSR. Work should only take place at one WTG location to minimize potential night-time cumulative noises (when working at night within 2,000 m from NSR);
- » The applicant must notify the NSR when night-time activities will be taking place within 1000 m from the NSR;
- » If possible, the applicant can plan construction activities at WTG located within 1000 m from NSR to take place during a period when the structures are not used for residential purposes; and
- » The applicant must plan the completion of noisiest activities (such a pile driving, rock breaking and excavation) during the daytime period (even though it is expected that it is highly unlikely that this may take place at night).

The significance of the noise impact during the operation phase would be medium for day and high for night-time operational activities. Operating WTG will be clearly audible at the closest NSR and potentially at disturbing noise levels. It is therefore recommended that:

- » the applicant design and implement a noise abatement programme, which may include operating certain wind turbines in a reduced noise emission mode (it will be required that the applicant select a WTG that have the capability to operate in a reduced noise emission modes); or
- » The applicant can select a WTG that have a maximum sound power emission level less than 107.0 dBA (re 1 pW) at locations closer than 2,000 m from any verified NSR; or
- » The applicant can change to layout to move certain WTG further from verified NSR (the layout should be modelled to ensure that the potential noise levels will be less than 45 at all NSR); or
- » The applicant can reduce the number of WTG that may be used at this WEF (the layout should be modelled to ensure that the potential noise levels will be less than 45 at all NSR); or
- » The applicant can relocate certain of the verified NSR.

5.6.1. Conclusion

Subject to the condition that the applicant will select appropriate measures to ensure that the potential medium and high significance noise impact is eliminated, it is recommended that the proposed Springbok WEF (and associated infrastructure) be authorized. The WTG layout is considered acceptable should the applicant select to use a WTG with a SPL less than 107.0 dBA (re 1 pW).

Active noise monitoring is recommended because the projected noise levels are more than 42 dBA (more than 7 dBA of the night-time rating level of a rural noise district) for the layout assessed for any WTG with an SPL exceeding 104.5 dBA (re 1 pW).

It is recommended that the applicant re-evaluate the noise impact:

1. should the layout be revised where:
 - a. any WTG, located within 1,500 m from any NSR, are moved closer to the NSR;
 - b. the number of WTG within 2,000 m from NSR are increased; and
2. should the applicant make use of a wind turbine with a maximum SPL exceeding 107.0 dBA re 1 pW.

To ensure that noise does not become an issue for future residents, landowners or the local communities, it is recommended that the applicant get written agreement from current landowners and/or community leaders that no new residential dwellings will be developed within areas enveloped by the 42 dBA noise level contour.

5.7. Heritage Impacts (including Archaeological Assessment)

According to the DFFE Screening Tool analysis completed, the development area has Very High levels of sensitivity for impacts to palaeontological heritage and High levels of sensitivity for impacts to archaeological and cultural heritage resources. The results of the Heritage, Archaeology, and Palaeontological assessments conducted for this Motivation and Application in terms of site sensitivity are summarised below:

- » The cultural value of the broader area has limited significance in terms of its agricultural history (Moderate)
- » Limited significant archaeological resources were identified within the broader area (Low)

- » No highly significant palaeontological resources were identified within the development area, however the geology underlying the development area is very sensitive for impacts to significant fossils (Low)

As per the findings of the assessment, and its supporting documentation, the outcome of the sensitivity verification confirms the results of the DFFE Screening Tool for Palaeontology and disputes the results of the screening tool for archaeology and cultural heritage - this should be considered to be Moderate to Low.

Archaeological and palaeontological heritage resources reflect the environments of the deeper past and are unlikely to change significantly in as short a geological time span as 10 years. Some changes to heritage resources may result from processes of erosion and deflation but, in this particular ecological setting, would likely represent heavily disturbed contexts and consequently would be of limited scientific/heritage value.

The proposed renewable energy facilities are located within a belt of approved renewable energy facilities (Figure 5) located around Springbok. Furthermore, there are already a number of other approved renewable energy facilities located nearby, due to the location of the development area within the Springbok REDZ. In terms of impacts to heritage resources, it is preferred that this kind of infrastructure development is concentrated in one location and is not sprawled across an otherwise culturally significant landscape. The proposed development is therefore unlikely to result in unacceptable risk or loss, nor will the proposed development result in a complete change to the sense of place of the area or result in an unacceptable increase in impact due to its location as one of many renewable energy facilities in this area.

5.7.1. Conclusion

In light of the above, there is no heritage objection to granting the extension to the validity to develop the Springbok WEF and grid connection based on the current site conditions on condition that the recommendations made in the original HIA completed for this project are adhered to.

It is very unlikely that the baseline status of the environment has changed since the initial EIA was done in 2010 and then updated in 2018. While Kaplan (2010) did not communicate an impact rating during the initial assessment, the mitigation measures provided in the initial assessment are still applicable. No new mitigation measures should be added to the Environmental Authorisation if the DFFE decides to extend the commencement period as per the application

5.8. Socio-Economic Impacts

The socio-economic study found that Economic Growth in both the Namaqua DM and the Nama Khoi LM has slowed significantly since 2010 and the ten years prior to 2010. The mining sector continues to be the most important sector in terms of GVA contribution, and has increased in importance in the Nama Khoi LM. However, the community and social services sector has replaced the government services sector as the second most important GVA contributor (in 2022). The economy for the study area therefore is still focused on the primary sector, but it is increasing the importance of support sectors, and reducing its dependence on the government services sector. The community services sector has also become the most important employment sector in Nama Khoi, replacing the government services sector (which is now the 4th largest employer).

The most significant difference when comparing the socio-economic information in the previous assessment (2010) with the current status quo for the study area is that there has been a contraction in the population

numbers both in the District and in the Nama Khoi LM. Average population growth has also slowed significantly and the population is growing in the 65 year plus category which could be an indication of both an aging population as well as a trend where younger residents move to other provinces in search for employment opportunities. Which a smaller population employment levels have increased since 2010 (over 10% in the Nama Khoi LM, and 0.2% in the Namakwa District. There has also been a decrease in unemployment levels in both the District and LM. Despite these positive trends, significantly less households are classified as low income in both the LM and District.

The initial assessment of the proposed development identified several impacts both during the construction and the operational phase. Based on an understanding of the proposed amendment and extended timeframes, it is Urban-Econ's opinion that the identified impacts for the construction phase. The construction costs might increase slightly which will have a small increased impact on production, GDP, employment and household standards of living however due to the very small changes and the extent of these impacts the significance will not be affected. The visual impacts will also not be altered during the construction phase and remain high (negative).

Based on an understanding of the proposed amendments and extended timeframes, it is Urban-Econ's opinion that the identified impacts for the operational phase will also not change.

The proposed Springbok WEF together with the existing and proposed REFs will assist in the enabling of efficient and effective expansion of key infrastructure to satisfy local and national grid requirements. The implementation of this project would therefore assist/ strengthen the electricity network of the South African National grid, meeting growing demand for electricity in the area and improving service quality and reliability. Reliable, i.e., uninterrupted, supply of electricity to the country is one of the prerequisites for development and economic growth as businesses.

5.8.1. Conclusion

Urban-Econ assessed the proposed amendments and confirms that the proposed extension and changes to the proposed Springbok WEF will not change the scope, nature or level of the impacts and therefore no change to the initial assessment conducted should occur. Furthermore, from a socio-economic perspective there is no reason why the proposed development should not be authorised.

6. CONCLUSION AND MOTIVATION FOR APPROVAL OF THE REQUESTED AMENDMENTS

The 55.5 MW Springbok Wind Energy Facility was originally developed to be built and operated under the government's Renewable Energy Independent Power Producer Programme ("REIPPP"). As the REIPPP has experienced numerous and significant delays in moving forward in the last few years, it has in the past required the project developers to renew the Environmental Authorisation (EA) anticipating that the REIPPP programme would commence again in the near future, which would allow the project to be bid and eventually constructed. In 2021, the project had been assigned to a private off taker, and AM8 was granted to extend the EA beyond 10 years, by an additional 18 months. However, due to recent Eskom grid capacity constraints and the further development and commencement of construction has been suspended to a yet to be determined date. The applicant is therefore requesting an amendment for an extension of the commencement period (validity) of the Environmental Authorisation by an additional 5 years.

The following are the key motivating factors which indicate the advantages to granting the requested amendments:

1. Impacts identified within the original report are still applicable for the proposed project. **No additional impacts or changes in impact significance will result because of the amendments as the environment has not changed.** Following specialist inputs for the proposed amendment, provided that mitigation measures as documented in the EMPr and as required in the specialist reports are implemented, the recommendation is that the amendment be approved.
2. There is no objection to the proposed amendments by any of the specialist consultants who have completed a verification assessment.
3. The development has the ability to create employment, opportunities for contractors in the region, ownership opportunities for local communities, skills, supplier and enterprise development spend and the implementation of socioeconomic development initiatives.
4. All the potential cumulative impacts associated with the project planned within the area (30km radius) will not change as a result of the proposed amendment.
5. The proposed Springbok WEF is located within the Springbok Renewable Energy Development Zone No. 8 (REDZ8) as determined by the Strategic Environmental Assessment for Wind and Solar Photovoltaic Energy in South Africa (2015 –CSIR/DEA). The consolidation and concentration of the wind energy facilities within this zone is therefore preferred.

Based on the nature of the requested amendment for the 55.5MW Springbok Wind Power Generation Facility and Associated Infrastructure, the specialist findings confirmed that the environment has not materially changed since the undertaking of the EIA in 2010, the impact ratings as provided in the initial assessment remain valid, and the mitigation measures provided in the initial assessment are still applicable.

Therefore, taking into consideration the conclusions from the specialist site verification and motivation reports (**Appendix A - G**) and the findings of this report, it is concluded that the proposed amendment to the validity of the EA is not expected to result in an increase to the significance ratings for the identified potential impacts, and should accordingly be approved.

7. PUBLIC PARTICIPATION

A public participation process is being conducted in support of the Application to amend the Environmental Authorisation (Ref: 12/12/20/1721) issued for the proposed construction of the 55.5MW Springbok Wind Power Generation Facility and Associated Infrastructure. The Public Participation has been undertaken in accordance with the requirement of Chapter 6 of the EIA Regulations of December 2014, as amended. The following key public participation tasks have been undertaken:

- » The database/register of I&APs has been updated and maintained.
- » Placement of site notices at the site during **March 2023** (refer to **Appendix H2**).
- » Written notifications to registered I&APs as well as Organs of State regarding the availability of the Motivation Report were distributed on **13 April 2023** (refer to **Appendix H4** and **Appendix H5**).
- » Placement of an advertisement in the **Gemsbok** newspaper on **Friday 14th April 2023** announcing the availability of the Motivation Report for a 30-day review and comment period.
- » The Motivation Report has been made available for the 30-day review and comment period from **Thursday 13 April 2023 to Monday 15 May 2023**. The report is available for download on the Savannah Environmental website: <https://savannahsa.com/public-documents/>.

Comments received during the 30-day review and comment period will be included as **Appendix H6** in the final submission of the Motivation Report to the DFFE for consideration in the decision-making process. Comments will be included and responded to in a Comments and Responses Report, to be included as **Appendix H5** of the Final Motivation Report. Proof of attempts made to obtain comments from relevant Organs of State and key stakeholders will also be included in **Appendix H6** of the Final Motivation Report.