PROPOSED KAROSHOEK 400KV GRID INTEGRATION NORTHERN CAPE PROVINCE

Site Verification and Motivation for Amendment of the Environmental Authorisation

DFFE Ref.: 14/12/16/3/3/2/288

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savannah environmental

t +27 (0)11 656 3237
f +27 (0)86 684 0547
e info@savannahsa.com
w www.savannahsa.com

Prepared for:

FG Emvelo (Pty) Ltd
Building 3, Third Floor,
11 Alice Ln, Sandhurst,
Sandton
2146

savannah environmental

t +27 (0)11 656 3237 f +27 (0)86 684 0547 e info@savannahsa.com w www.savannahsa.com
First Floor, Block 2, 5 Woodlands Drive Office Park, Cnr Woodlands Drive & Western Service Road, Woodmead, 2191

PROJECT DETAILS

Title	:	Establishment of the Karoshoek Grid Integration Infrastructure within the Khara Hais Local Municipality in the Northern Cape Province
DFFE Reference	:	14/12/16/3/3/288
Authors	:	Savannah Environmental (Pty) Ltd Jo-Anne Thomas Cornelius Holtzhausen
Specialist Consultants	:	Andrew Husted of The Biodiversity Company Sarah Newman of The Biodiversity Company Jenna Lavin of CTS Heritage Lourens du Plessis of LOGIS Pierre van Jaarsveld of URBAN-ECON Development Economists (Pty) Ltd
Client	:	FG Emvelo (Pty) Ltd
Report Status	:	Draft Amendment Motivation Report for authority review and decision-making

When used as a reference this report should be cited as: Savannah Environmental (2023) Final Motivation Report for the Amendment to the Environmental Authorisation for the proposed Establishment of the Karoshoek Solar Valley Development and associated infrastructure on a site near Upington, Northern Cape Province

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PURPOSE OF THE REPORT

FG Emvelo (Pty) Ltd has requested an amendment to an existing Environmental Authorisation (EA) for the authorised Karoshoek Grid Integration Infrastructure i.e. on-site substation/switching yard and 400kV powerline as part of the larger Karoshoek Solar Valley Development (DFFE Reference: 14/12/16/3/3/288, EA issued on the 20 March 2013). The project is located on the following properties: Portion 0 of Farm Karos 959; P20ortion 3 of Farm Annashoek 41; Portion 0 of Farm Zandemm 944; Portion 2 Farm of Matjiesrivier 41; and Portion RE of Farm Matjiesrivier 41, within the Dawid Kruiper 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 10 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 FG Emvelo (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** to **E** 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 the requirements of the DFFE from **Tuesday 30th May 2023** to **Friday 30th June 2023**. The availability of the Motivation Report for the 30-day comment and review period was communicated via email to all registered I&APs and advertised in the **Volksblad Newspaper** on **Thursday 1 June 2023** ref **Appendix H2**.

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:

Cornelius Holtzhausen of Savannah Environmental
Post: PO Box 148, Sunninghill, 2157 Johannesburg
Tel: 011 656 3237
Fax: 086 684 0547
Mobile: 060 978 8396
Email: publicprocess@savannahsa.com
www.savannahsa.com

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

1. OVERVIEW OF THE PROJECT

1.1. Location

The proposed project site is located near Upington and falls within the jurisdiction of the ZF Mgcawu District Municipality ((previously Khara Hais Local Municipality) and Dawid Kruiper Local Municipality (see **Figure 1.1**). The project is located on the following properties: Portion 0 of Farm Karos 959; Portion 3 of Farm Annashoek 41; Portion 0 of Farm Zandemm 944; Portion 2 Farm of Matjiesrivier 41; and Portion RE of Farm Matjiesrivier 41. The project site is located within the Upington Renewable Energy Development Zone (REDZ) and the Northern Corridor of the Strategic Transmission Corridors (refer to **Figure 1.2**)

The N10 would be the only main access route to be used between Upington and the construction site. An existing access road from the N10 would be used to access the site. The site is located in proximity to the Upington CSP Main Transmission Substation, which potentially provides the opportunity for good grid connectivity.

The following infrastructure and developments associated with the project have been authorised by the Department of Forestry, Fisheries and the Environment (DFFE) (DFFE Reference: 14/12/16/3/3/2/288):

- An on-site substation switchyard (400kV) on the Karoshoek site; and
- New 400 kV Power line(s) from the proposed solar generation infrastructure at all the sites of the Karoshoek Solar Valley Project which will connect to the future Eskom CSP MTS 400 KV power line to the west of the site

1.2. Status (baseline) of the Environment assessed through the Environmental Impact Assessment (EIA) Process (EIA report, July 2012)

The findings of the specialist studies undertaken during the EIA in 2012 assessed both the benefits and potential negative impacts anticipated as a result of the proposed 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 2012 for the proposed project.

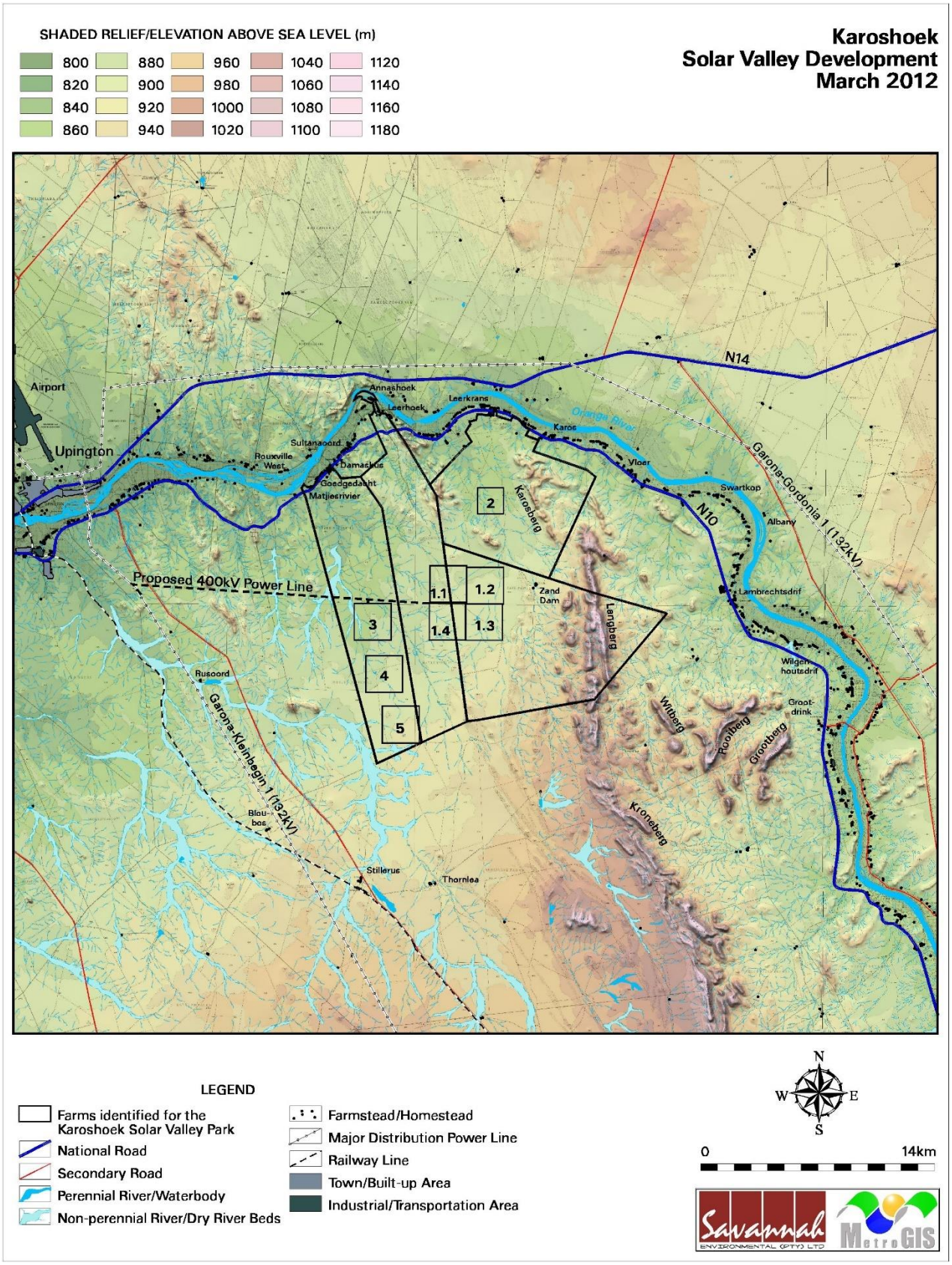

Figure 1.1: Locality map (Source: Savannah Environmental, 2012)

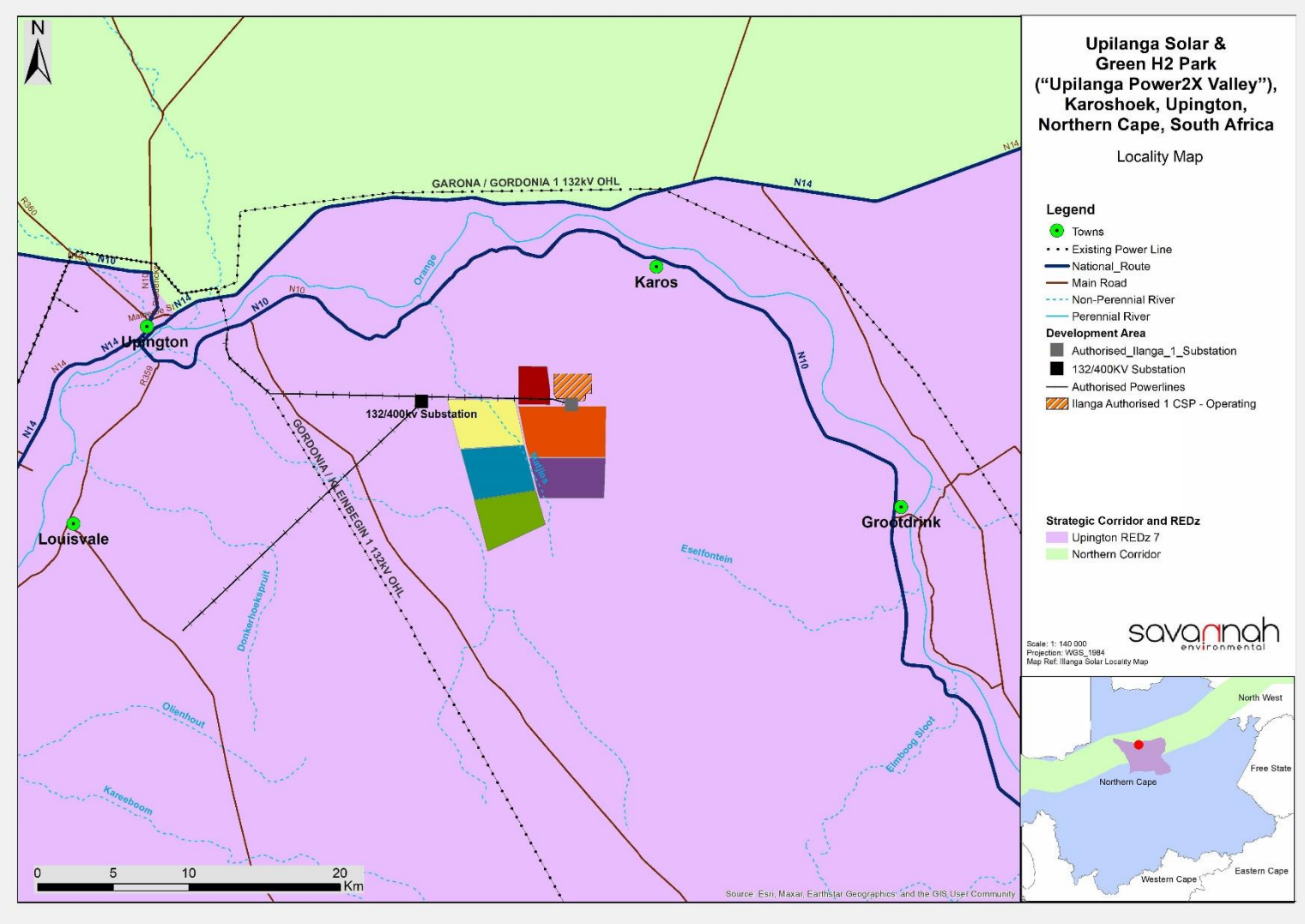

Figure 1.2: Locality map showing the location of the grid connection infrastructure and the Karoshoek Solar Valley Development within the Upington Renewable Energy Development Zone (REDZ) and Northern Corridor of the Strategic Transmission Corridors.

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

Topography and site extent	Upington 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. The study area occurs on land that ranges in elevation from 800m-1180m above sea level. There is a range of steep hills running in a north-south direction along the eastern part of the broader development site and a series of scattered hills in the central northern part of the site. The elevation on the broader site varies from 820 to 950 m above sea level (amsl). 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. The Orange River the nearest body of water. The study area is characterised by farmland which falls within the Boegoeberg Damn Irrigation area. The area consists of various small farms along the banks of the Orange River as well as some larger farms to the south of the N10. The proposed development will comprise the development of 400kV grid connection infrastructure planned to connect the projects proposed as part of the Karoshoek Solar Valley Development to the national grid.
Environmental Considerations	The proposed development areas are largely well located in terms of avoiding sensitive receptors. Drainage lines are present to some degree within all of the proposed development areas. The sensitivity of these areas is however quite variable, depending on the size and the extent of development of associated vegetation within the drainage lines. The sensitivity of these areas should be assessed in the field prior to construction and the sensitive areas clearly delineated so that impacts to these areas can be avoided. There are a large number of individuals of protected tree species within the area and some impact in these trees is inevitable, however, these are relatively widespread species, and the development would not compromise the viability of local or regional populations. Avifaunal impacts could occur, the majority of these impacts will only become apparent after the construction of the transmission infrastructure of the development. It is recommended that all transmission infrastructure should be bird-friendly in design during the construction phase of the development.
Land use type	The farms affected by the proposed development are mainly used for cattle farming and leisure activities. Smaller farming units to the north of the N10 are mainly used for the cultivation of grapes and raisins by means of irrigation farming. Homesteads in the area are scarce and of the twelve wards within the //Khara Hais Local Municipality (now Dawid Kruiper LM) the following settlements are located within 20 km of the facility: » Lambrechtsdrift » Karos » Leerkrans » Ntsikelelo » Luisvale Only one homestead is located on the site, of which it is only used occasionally.
Heritage, Archaeology	The findings of the baseline Heritage report (Gaigher S. 2012) states that the only sign of sites of heritage potential were the limited scatterings of Middle to Late Stone Age tools found in various

and Palaeontology	areas. These findings in themselves do not constitute sites but do indicate the possible occurrences of such sites. Most of the areas investigated in the larger study area were deemed not to be geographically suitable for occupation. It was noted that the area could still contain the remains of nomadic hunter/gatherer camps and some areas with suitable substrates could have been used as quarries for material to produce Stone Age Tools. No such sites were however identified. In three areas scatterings of surface stone artifacts were notices, however none of these were concentrated enough to be classified as Stone Age sites. Their presence does indicate that such sites could still be found sub-surface. No site-specific recommendations were necessary, and no fatal flaws were identified.
Visual	The majority of the study area is sparsely populated (less than 10 people per km2) and consists of a landscape of wide-open spaces and very little development. The scarcity of water and other natural resources has dictated the settlement patterns of this region. Tourism is not well developed within the study area, but some destinations exist along the river and in Upington. The population distribution is primarily concentrated in and around small towns along the Orange River. Farming homesteads dot the countryside at irregular intervals. The study area has a rural character with little development outside of Upington. Exceptions occur where power lines traverse the study area. These include the Garona-Gordonia 1 132kV line to the north east of the site and the Garona-Kleinbegin 1 132kV line to the west of the site.
Other planned Projects in the area (during EIA Phase)	Several Authorised renewable energy facilities exist in the area surrounding the site of the proposed Karoshoek Grid Integration Infrastructure. The current facilities can be viewed in **Figure 1.3**.

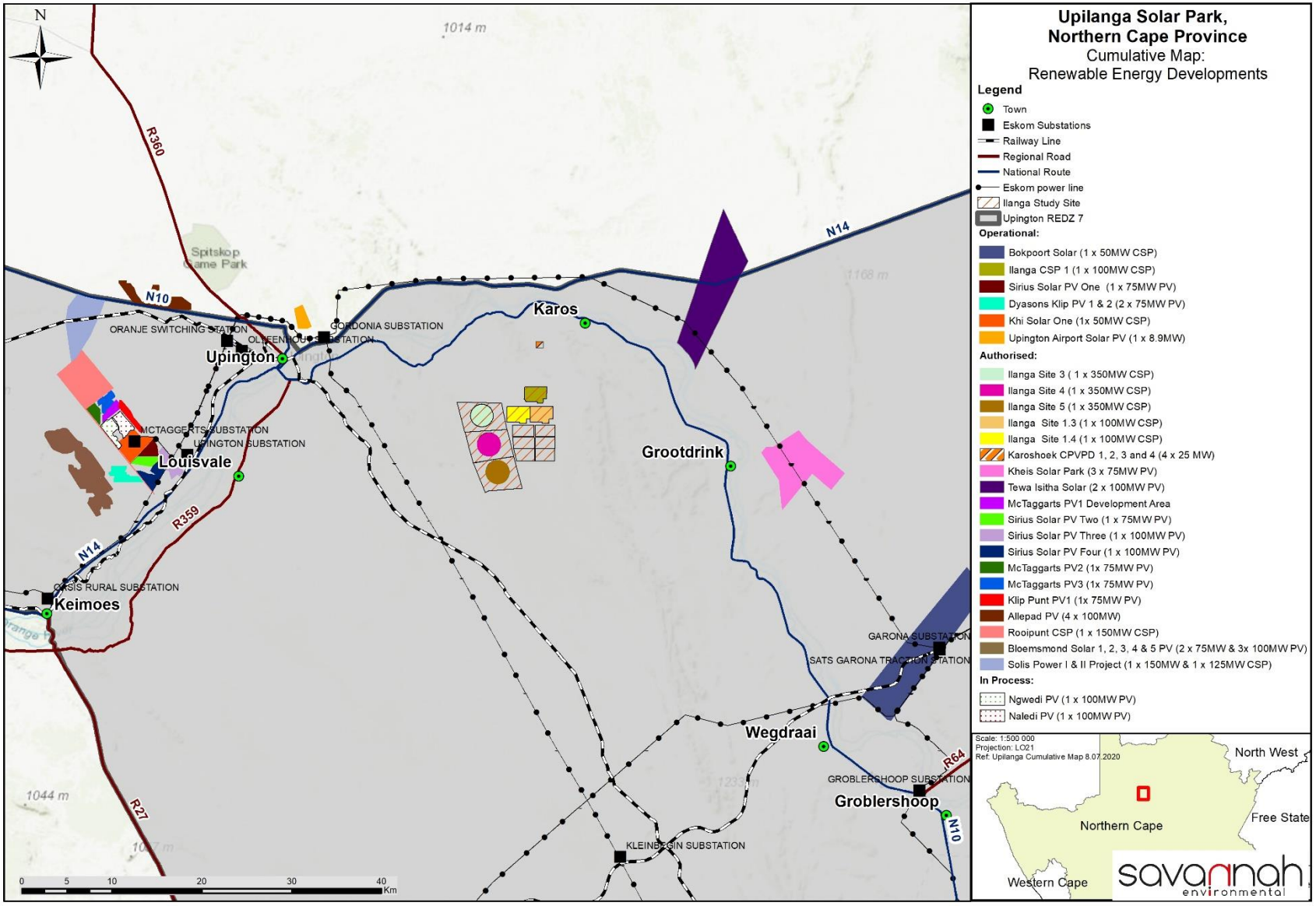

Figure 1.3: Map showing the location of the Karoshoek Solar Valley projects (of which the grid infrastructure forms part) and other proposed and approved renewable energy developments (each including grid connection infrastructure) in the area

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

The following environmental impacts relevant to the site and the amendment application were identified and assessed as part of the EIA (DEA Reference: 14/16/12/3/3/2/288) undertaken by Savannah Environmental in 2012 for the Karoshoek Grid Integration Infrastructure and Associated Infrastructure:

» Ecological
» Geological
» Heritage, Archaeology and Palaeontology
» Visual
» Socio-Economic

According to the EIA (Savannah Environmental, 2012), with due consideration of the management and mitigation of the impacts the project 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 (2012)

i) Ecological Impacts

The ecological impact assessment undertaken by Todd (2012) suggests that the impacts associated with the development of the Karoshoek Solar Valley project are potentially of moderate to high significance. The impact could however be reduced to a low level through suitable avoidance and mitigation measures. There are sensitive ecosystems within the site, these areas are generally restricted in nature and should be reasonably easy to avoid. There are also a relatively high number of protected tree species in the site, though it is not deemed to be a high sensitivity area as the species and vegetation are widespread. The greatest risk of impacts from the project would be on the avifauna in the area resulting from transmission infrastructure. Of further concern is the risk of erosion and the impact on listed species at some of the proposed areas. Provided that suitable avoidance and mitigation measures are implemented at each of the proposed areas, the impacts of the developments should be local in nature and would not be of broader significance or result in long-term degradation of the receiving environment.

The following was concluded from the assessment:

» No impacts which would prevent the project from proceeding were identified through this assessment.
» The majority of impacts are expected to be of low to very low significance after the implementation of appropriate mitigation measures.
» Although there are some sensitive ecosystems within the site, these are generally restricted in nature and should not pose a very large obstacle for the development of the site as it should be reasonably easy to avoid these areas. The final layout should aim to avoid these areas as far as possible. If this is not possible

then appropriate mitigation must be implemented and a water use licence is to be obtained if alluvial pans and drainage lines are to be crossed by access roads or power line towers are within 100m of these features. Furthermore, construction camps should also be positioned to avoid these sensitive areas.

» Despite the presence of a relatively high number of protected tree species at the site, it is not deemed to be a highly sensitive area on account of the widespread nature of the species and vegetation types that would be affected by the development. Permits are required to be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) for any protected trees that may be affected.
» A permit is required from the Department of Water Affairs if there are expected impacts on any water resources (i.e. the drainage lines).
» A TOPS permit is required for any activities involving any TOPS listed species

ii) Geological Impacts

The geological impact study (2012) suggested that the potential impacts on the geological environment associated with the proposed activity range from a low to moderate significance. A large portion of the proposed development area is underlain by fine grained soils of the Gordian Formation that is vulnerable to water erosion. While the low rainfall in the area does reduce the risk of erosion, the effective implementation of mitigation measures was suggested in order to manage potential erosion.

The study also found that the cumulative impacts on the geological environment were generally considered to be of a low to medium impact due to the localised and scattered nature of the proposed development. Agricultural and other human activities could result in an increase in siltation along the watercourses that feed into the Orange River, the study deemed this a potentially high cumulative impact.

The specialist concluded the following:

» Soil erosion could occur for the construction of access roads along the proposed power line route.
» Soil degradation could occur as a result of construction of the substation, as oils and chemicals will be used here.
» The identified potential impacts on the geological environment are rated as being of a moderate significance. With effective implementation of mitigating measures the impacts can be reduced to an acceptable level.

iii) Heritage and Archaeological Impacts

The findings of the baseline Heritage report (Gaigher S. 2012) states that there are no significant heritage buildings on the site, or objects of outstanding significance in the immediate vicinity affected by the proposed Solar Park and related infrastructure. However, it noted that there were artefacts associated with the Stone Age identified on three of the proposed development sites in the vicinity. These were not found to be representative of heritage sites and holds no matrix value in themselves. They do however indicate the possibility of unidentified sites being found in the area.

Chance finds 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.

The specialist concluded the following:

- In the event of archaeological materials being present such activity would alter or destroy their context (even if the artefacts themselves are not destroyed, which is also obviously possible).
- No sites, features or objects of cultural heritage significance were identified in the study area. Therefore, there would be no impact from the proposed development.
- From a heritage point of view it is recommended that the proposed development be allowed to continue.
- In the event that such resources are found, they are likely to be of a nature that potential impacts could be mitigated by documentation and/or salvage following approval and permitting by the South African Heritage Resources Agency and, in the case of any built environment features, by Ngwao Boswa ya Kapa Bokone (the Northern Cape Heritage Authority).

v) Visual Impacts

A visual impact assessment (VIA) undertaken by Lourens du Plessis (2012) concluded that the rural, natural and relatively unspoilt views surrounding the proposed Karoshoek Solar Valley development and ancillary infrastructure will be transformed for the entire operational lifespan of the facility. However, due to the nature of the topography, significant areas will not be visually exposed, and due to settlement patterns, very few visual receptors will be impacted upon.

The anticipated visual impacts range from moderate to low. Of relevance is the fact that post mitigation impacts for sites hosting smaller scale infrastructure are generally of lower significance that those of sites hosting the taller 200m towers. In addition, the post mitigation significance of visual impacts for the three sites clusters together also tends to be of lower than that of the more remote sites. From a visual perspective, the smaller scale infrastructure is thus favoured, as is the clustering of facilities in close proximity. This effectively contains the extent and ultimately the significance of potential visual impacts.

With due consideration to mitigation, none of the impacts anticipated for the proposed development, both for individual sites and cumulatively, are considered to be fatal flaws from a visual perspective.

The specialist concluded the following:

- The construction and operation of the power line and substation will have a visual impact on the natural scenic resources and rural character of the study area, and particularly within 4-8km radius of the proposed facility.
- As a result of the location of the proposed facility, as well as existing power line infrastructure in the area, the impacts identified are expected to be of low significance.
- Due to the nature of the power line, it is not always possible to mitigate the visual impacts associated therewith. However, where possible, recommended mitigation of visual impacts should be implemented and maintained on an on-going basis.
- No fatal flaws have been identified which would prevent the project from proceeding.

iv) Socio-Economic Impacts

The socio-economic impact assessment conducted during May 2012 for the proposed Solar Park development, in general revealed that the economic benefits associated with the development outweigh the negative social impacts. No fatal negative social impact that could prevent the project from continuing

were identified. The decrease in local unemployment levels and skills improvements could also provide a downstream benefit to the socio-economic environment.

Construction of the Karoshoek would result in significant employment, and as a large portion of these workers would fall within the semi-skilled to low skilled categories it is highly likely that local individuals could benefit from these temporary opportunities. The operational phase would result in fewer employment opportunities, however it should still be noted that these opportunities would ensure various economic benefits to those permanent employees and their families in the long term.

Construction activities would potentially result in negative impacts on the social environment which could be more severe during peak construction periods. The cumulative impact of the construction of the various facilities could result in long term negative impacts such as increases in crime, degradation of local roads, increased pressure on existing infrastructure and services. The cumulative negative and overall impacts can be mitigated by the employment of locals. Due to the low population density in the study area, there might not be sufficient numbers of workers with the required skills available to undertake the construction activities. The project proponent could then revert to intensive capacity building and skills training but could also focus on employing low skilled and/or unskilled individuals from outside the study area or even municipal area. The latter would not be preferred as training and capacity building of local community members would ensure that benefits accrue locally and would assist with sustainable.
development of the area.

Due to the size and extent of the proposed Karoshoek Development, the characteristics of the rural area would permanently change. The sense of place could be affected by intrusion impacts (noise and dust), safety and security issues, visual impacts, an increase in movement or traffic and so forth. However, it is still anticipated that once operational, the different facilities would have limited negative impacts on the social environment. It is anticipated that farming activities could continue on those sections of the properties that are not affected by the development footprint. In addition, minor impacts on the surrounding farming activities are foreseen should safety and security of those farmers not be compromised through the presence of the construction and/or permanent workforce.

The specialist concluded the following:

- Benefits associated with the project can be enhanced should the applicant and all of their partners be truly committed to the social upliftment and capacity building of the local community.
- The inflow workers to the area would have an impact on the local social environment of those living in close proximity to the site as the area is currently scarcely populated and characterized as a peaceful rural environment.
- The escalation in people movement and presence of workers (and possibly jobseekers) on site could result in increased risks for criminal activities compromising the current safety and security profile of the local communities.

vii) Cumulative Impacts

A cumulative impact, in relation to an activity, refers to the impact of an activity that in itself may not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse undertakings in the area. The cumulative impacts associated with the proposed facility primarily refer to those impacts associated with avifauna, visual, and social impacts, and are mainly associated with other developments of a similar nature proposed within the broader region.

The cumulative **Ecology** impacts associated with the project are largely as a result of loss of natural vegetation from the development of the natural land. Facilities such as those proposed result in the loss of vegetation and habitats within the footprint of the development site. Numerous developments of similar nature within one area could result in cumulative impacts on sensitive species of conservation concern as well as on protected species. The other proposed power lines within the broader Karoshoek Solar Valley Development would cumulatively add to the loss of ecologically sensitive environments.

The cumulative impact on **Heritage** resources relate to the loss of heritage sites as well as a change in the sense of place of an area. Numerous developments within an area could therefore result in a significant impact in this regard if appropriate mitigation measures are not implemented. This is not considered the case with this development due to the low significance of heritage sites identified within the study area as well as the face that the site is removed from potentially sensitive visual receptors.

The cumulative **Visual** impacts associated with the development will increase along with that of other electricity related infrastructure in the region. This is relevant in light of the existing infrastructure surrounding the site i.e., Garona/Gordonia, as well as the Garona/Kleinbegin, and the proposed Eskom power lines i.e., Eskom CSP MTS 400KV to the west of the site. Albeit limited in extent and scale.

The development of the facility will have a cumulative **Social** impact on several existing issues within the area, predominantly within rural settlements associated with the potential influx of workers and job seekers. An increased population density may lead to a cumulative impact on housing requirements, services (i.e., water, electricity, and sanitation), health issues, safety, and security. The expansion of the existing rural settlements in the area this will have a cumulative impact on the environment and health (i.e., in terms of ablution facilities). This will be impacted on even further with respect to other proposed solar facilities in the area.

Cumulative positive impacts are, however, also anticipated aiding grid integration and a more stable electricity grid for South Africa, largely due to job creation opportunities, business opportunities for local companies, skills development, and training. The connection of renewable energy facilities to the Eskom grid will have a positive impact at a national and international level through the generation of "green energy" which would lessen South Africa's dependency on coal generated energy and the impact of such energy sources on the bio-physical environment. The proposed project would fit in with the government's aim to implement renewable energy projects as part of the country's energy generation mix over the next 20 years.

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 in the validity of the EA dated 20 March 2013. The requested amendment will result in the extension of the validity period of the Environmental Authorisation by an additional 10 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

FG Emvelo (Pty) Ltd is proposing to amend the Environmental Authorisation (EA) for the Karoshoek Grid Integration Infrastructure, by extending the EA validity by an additional ten (10) 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 6 of the First Issue Environmental Authorisation, Issued on 20 March 2013, DEA Reference 14/12/16/3/3/2/288 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:

- 14/12/16/3/3/2/288/AM1 – authorised on 11 November 2015 extending the validity to the 11th of November 2017
- The most recent 14/12/16/3/3/2/288/AM2 – 11 April 2018 extending the validity to the 20th of March 2023 which states the following.

"This activity must commence within a period of ten (10) years from the date of issue of the authorisation (i.e., the EA lapses on 20th March 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, FG Emvelo (Pty) Ltd submitted an amendment application to DFFE on 17 March 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 28 May 2023. The applicant thus requests that the Competent Authority amends Condition 6 of the original EA as amended (DFFE Reference: 14/12/16/3/3/2/288/AM2; dated 11 April 2018) as follows:

"This activity must commence within a period of twenty (20) years from the date of issue of the authorisation (i.e., the EA lapses on 20 March 2033). 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

3.1. Extension of the validity of the Environmental Authorisation

The Karoshoek Solar Valley projects will form part of the proposed Upilanga Solar and Green Hydrogen Park development, located at Karoshoek, Upington, Northern Cape Province, South Africa. Upilanga Solar and Green Hydrogen Park falls under the Green Hydrogen National Program Strategic Infrastructure Project (SIP) No. 20e, which was gazetted by the Honourable Minister Patricia De Lille in Government Gazette 437658 on 6 December 2022. Therefore, the applicant is requesting that the validity of the EA be extended. This will ensure that the EA remains valid for the undertaking of the authorised activities such that the project can be incorporated into this SIP registered project.

It should furthermore be noted that the EA for the project has not been lying dormant. All specialists undertook a re-assessment of the potential environmental impacts associated with proposed PV projects in the area in 2020. No significant changes to the receiving environment have occurred since the time of the issuing of the EA, and, considering the re-assessments undertaken in 2020, and again now 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 it will allow for the connection of a number of renewable energy projects proposed within the proposed Upilanga Solar and Green Hydrogen Park development.

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

In terms of Conditions 6 of the EA dated 20 March 2013 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 2012, 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, FG Emvelo (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.

» **Cornelius Holtzhausen** is registered with the International Association for Public Participation (IAP2SA145), South Africa and holds an MSocSci in Cultural Anthropology as well as a postgraduate degree in Social Impact Assessment and Public Participation. He has produced a growing list of social impact reports for a wide range of projects and is currently employed as a Social and Public Participation Consultant at Savannah Environmental.

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 (including flora and fauna, avifauna and freshwater)
- Soils
- Heritage, Archaeology and Palaeontology
- Socio-Economic
- Visual

As the underlying geology of the area is unlikely to have changed in a short geological time span as 10 years, no geological specialist study was undertaken.

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 5.1 summarises the current status of the project environment.

Table 5.1: 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	A field survey was not conducted as part of this assessment and the assessment was conducted at a desktop level only. However, based on the previous reports and satellite imagery where it is apparent that little has changed in the area since the last field assessment, there is a high level of confidence in the understanding of the present ecological condition.
Land use type	The description of the affected environment as described in the original report remains unchanged. There has been no change in land use for the proposed development site, no developments have been constructed on or near the development site, and the area is still zoned for agriculture. The Ilanga CSP facility has been constructed and is operational.
Heritage, Archaeology and Palaeontology	Many farm portions in the immediate vicinity of the area proposed for development have been assessed in terms of impacts to heritage resources. It has been found that the area surrounding Upington has a rich historical and archaeological past. Based on the outcomes of these assessments, it is noted that most of the heritage resources identified are stone age artefact scatters of varying significance. In Fourie's assessment (2014), the field work identified numerous

[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.

	areas where low density scatters of Middle and Later Stone Age lithics were found. As no context and in situ preservation were identified these sites were graded as having low heritage significance. The report notes that the study area is largely underlain by unfossiliferous Precambrian basement rocks of the Namaqua-Natal Province as well as a range of unfosssiliferous to poorly-fossiliferous superficial sediments of Late Caenozoic age. The construction phase of the development will entail extensive surface clearance as well as shallow excavations into the superficial sediment cover (soils, alluvial gravels etc.) and locally also into the underlying bedrock. These excavations notably include site clearance activities as well as excavations for the power line pylon footings. However, the overall palaeontollogical sensitivity of the area proposed for the powerline development is LOW. Based on this known palaeontological sensitivity of the area, as well as the findings of the initial assessment for the Karoshoek development (Almond, 2015), it is very unlikely that the proposed amendment to the EA will negatively impact on significant palaeontological heritage resources. The Archaeological and palaeontological heritage resources reflect the environments of the far past, and as the report notes, they 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 specialist findings concerning Heritage, Archaeology, and Palaeontology conducted during May 2023 state that it is very unlikely that the baseline status of the environment has changed since the initial EIA was done in 2012.
Visual	The description of the affected environment, as described in the original report remains unchanged. There has 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.
Site access	The site access and extent of the site remain unchanged as assessed in the EIA process.
Other planned Projects in the area (during EIA Phase)	It is worth noting that the proposed Grid Connection Infrastructure is located within the Upington Renewable Energy Development Zone No. 7 (REDZ7) as determined by the Strategic Environmental Assessment for Wind and Solar Photovoltaic Energy in South Africa (2015 – CSIR/DEA) and within the Northern Corridor of the Strategic Transmission Corridors. 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*." Strategic Transmission Corridors are: "*areas where long term electricity grid infrastructure will be developed and where an integrated decision-making process for applications for environmental authorisation in terms of the National Environmental Act (1998) will be followed*."

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

The field surveys for this assessment were not conducted as part of this assessment and the assessment was conducted at a desktop level only. Nevertheless, based on the previous reports and satellite imagery where

it is apparent that little has changed in the area since the last field assessment, there is a high level of confidence in the understanding of the present ecological condition. Although the previous assessments did not specifically consider the 400kV powerline, information has been extrapolated for this amendment.

Vegetation:

- No Species of Conservation Concern (SCC) were encountered during the previous site visits, although two nationally protected tree species were recorded, *Vachellia erioloba* and *Boscia albitrunca*. These species are mostly associated with the larger drainage lines. Additional protected species were also recorded: *Aloe clavifora*; *Adenia oleifolium* and *Hoodia gordonii*. The appropriate permit is required for any activities which are likely to impact the survival of any directly or indirectly of these species.
- Quartz patches are known to occur in the area, and although none were recorded during the assessments, these are likely places where flora SCC will occur and should be avoided.

Mammals:

No SCC were encountered during the previous site visits. Two mammal SCC are expected, *Parahyaena brunnea* (near threatened) and *Felis nigripes* (vulnerable), but should they occur, they are unlikely to be impacted by the developments as they are wide ranging, and developments would not result in significant habitat loss for these species.

Reptiles:

Reptile diversity within the project area is expected to be moderate to low, with no SCC recorded during the previous site visits, nor any expected for the region. There do not appear to be any broad habitats of high reptile significance within the site.

Amphibians:

Amphibian diversity is expected to be low, with no SCC recorded during the previous site visits. The only SCC with the possibility of occurring on site is Pyxicephalus adspersus (near threatened). Some of the pans present within the site represent suitable breeding habitat for this species, as well as any other species which breed in temporary pools. However, those amphibians which require perennial water are unlikely to occur. Impacts will, therefore, be local in nature and of low magnitude.

Site sensitivity for the Karoshoek Grid Integration is as follows:

The Project Area was identified with the Environmental Screening Tool as possessing a Very High sensitivity within a Terrestrial Biodiversity Theme. This is due to overlap with Critical Biodiversity Areas and FEPA sub-catchments.

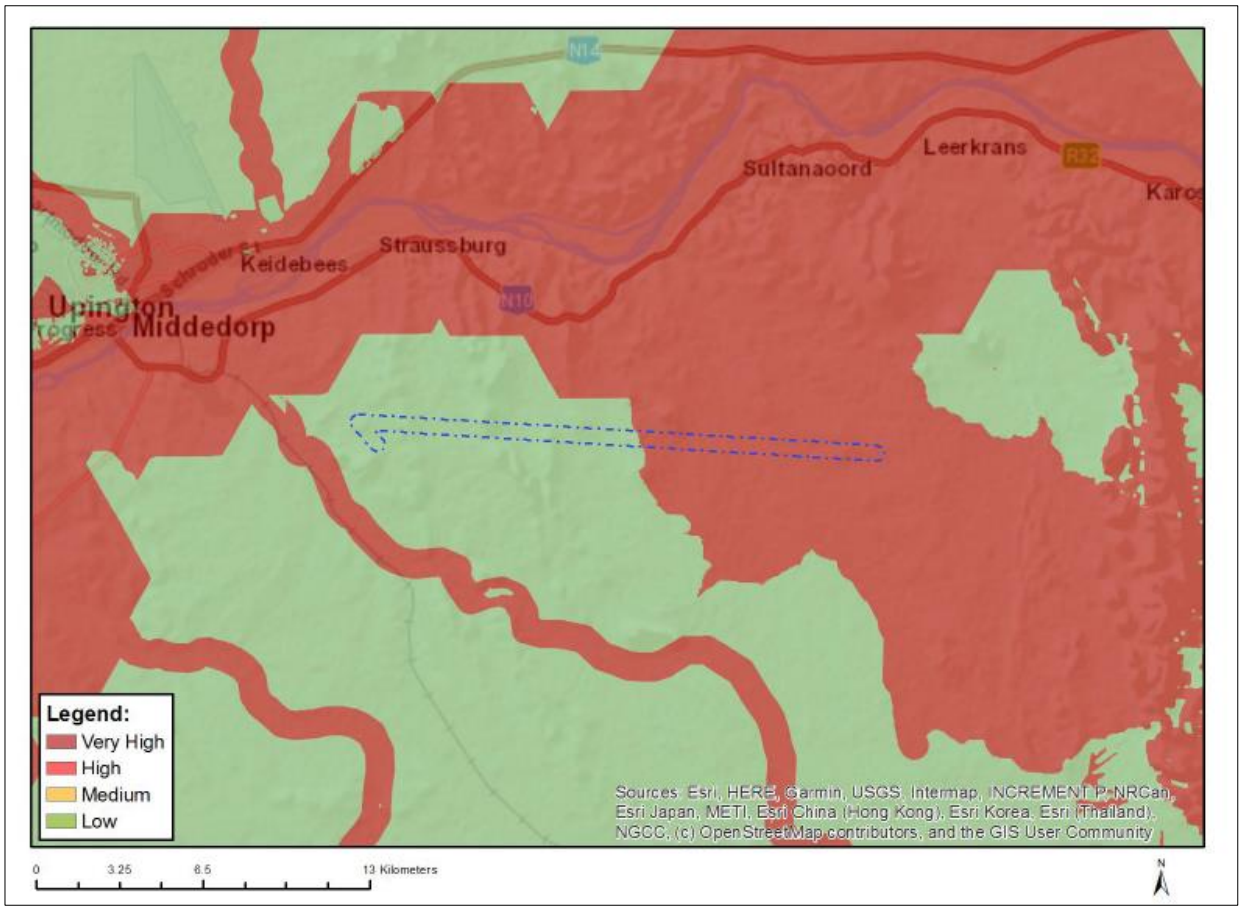

Figure 5.1: Relative Terrestrial Biodiversity Theme Sensitivity as identified by the Environmental Screening Tool

Since the time of release of the Final Environmental Impact Assessment Report for the Karoshoek Grid Integration (Savannah, 2012), the Northern Cape Department of Environment and Conservation released the Northern Cape Critical Biodiversity Areas dataset (NCDENC, 2016). According to this dataset, the site overlaps with a Critical Biodiversity Area 1 and a Critical Biodiversity Area 2. It is important that these limitations are considered going forward.

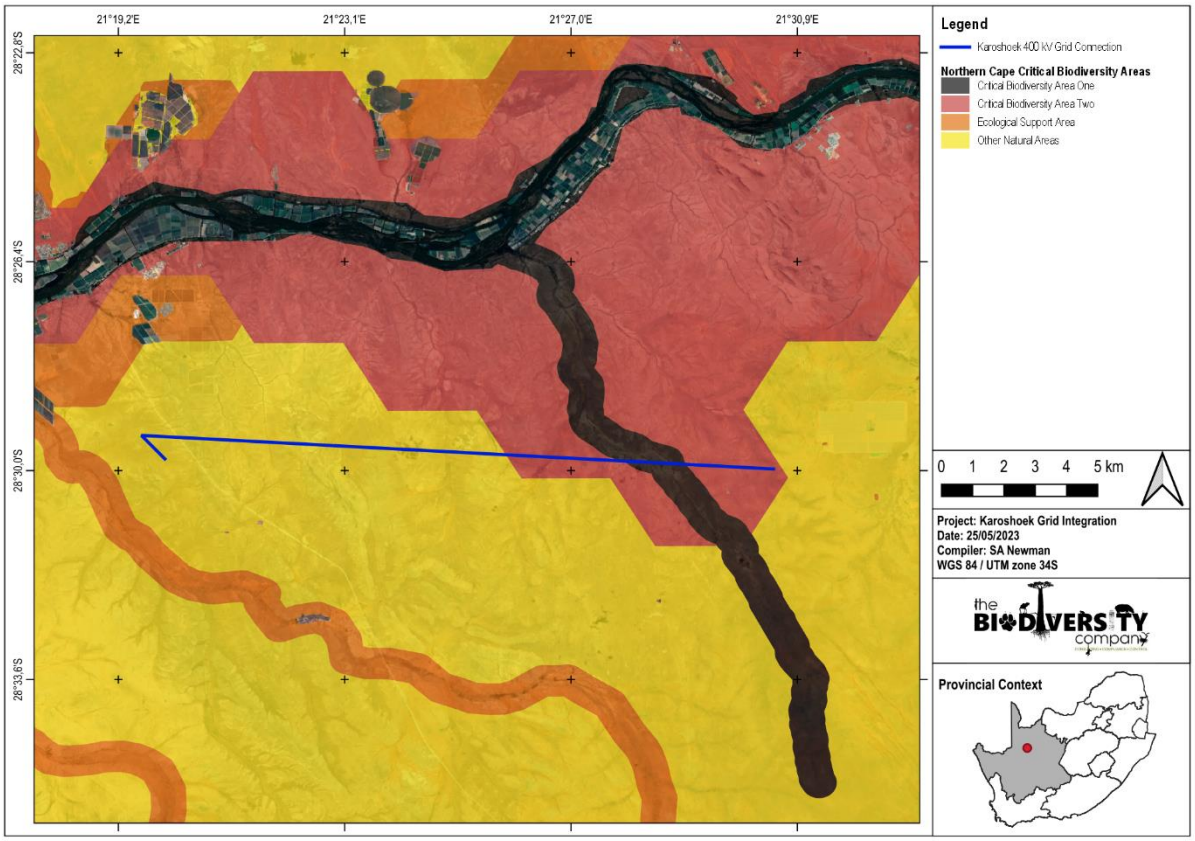

Figure 5.2: Map illustrating the site relative to the Northern Cape Critical Biodiversity Areas dataset (2016)

It can be noted from both the Fauna & Flora Specialist Impact Assessment Report (Simon Todd Consulting, 2012) and the Environmental Impact Assessment Process Final Environmental Impact Report for the Karoshoek Grid Integration (Savannah, 2012) that the site overlaps high and very high sensitivity areas, most of which are within the drainage lines. Provided that the management measures are correctly implemented, the linear infrastructure will have moderate to low significance and can be mitigated to acceptable levels.

The specialist concluded that mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be strictly adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. To this end, these measures have been included in the updated EMPr for this development as per the requirements of the Environmental Authorisation. In order to manage the impacts effectively, additional mitigation management has been recommended and should be put into place for the general impacts associated with flora and fauna.

5.2.1. Conclusion

It is the opinion of the specialist, based on the desktop assessment, that the ecological importance of the site has not decreased considerably. In consideration that the Karoshoek Grid Integration has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in this report and previous reports are strictly adhered to.

5.3. Impacts on Avifauna

A field survey was not conducted as part of this assessment and the assessment was conducted at a desktop level only. Nevertheless, based on the previous reports and satellite imagery where it is apparent that little has changed in the area since the last field assessment, there is a high level of confidence in the understanding of the present ecological condition.

Six (6) IUCN listed species are expected to occur in the area, all of which are susceptible to some degree, to either or both electrocution and collision from power line infrastructure. The following SCC are listed: *Neotis ludwigii* (endangered), *Falco biarmicus* (near threatened), *Ardeotis kori* (near threatened), *Polemaetus bellicosus* (endangered), *Spizocorys sclateri* (near threatened) and *Sagittarius serpentarius* (endangered).

Site sensitivity for the project site is as detailed in Section 5.2 above. It can be noted from both the Fauna & Flora Specialist Impact Assessment Report (Simon Todd Consulting, 2012) and the Environmental Impact Assessment Process Final Environmental Impact Report for the Karoshoek Grid Integration (Savannah, 2012) that the site overlaps high and very high sensitivity areas, most of which are within the drainage lines. Provided that the management measures are correctly implemented, the linear infrastructure will have moderate to low significance and can be mitigated to acceptable levels.

The specialist concluded that mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be strictly adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. To this end, these measures have been included in the updated EMPr for this development as per the requirements of the Environmental Authorisation. In order to manage the impacts effectively, additional mitigation management have been recommended and should be put into place for the general impacts associated with avifauna.

5.3.1. Conclusion

The proposed grid integration is not expected to result in an increase in impacts or their associated severities since approval of the EA. Disadvantages include an increased risk of collisions with powerlines, as identified in the specialist studies. All prescribed mitigation measures and supporting recommendations presented here will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. To this end, these measures have been included in the Generic EMPr's for this development as per the requirements of the Environmental Authorisation

It is the opinion of the specialist, based on the desktop assessment, that the ecological importance of the site has not decreased considerably. In consideration that the Karoshoek Grid Integration has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in this report and previous reports are strictly adhered to.

5.4. Water Resources

A field survey was not conducted as part of this assessment and the assessment was conducted at a desktop level only. Nevertheless, based on the previous reports and satellite imagery where it is apparent that little has changed in the area since the last field assessment, there is a high level of confidence in the understanding of the present ecological condition.

The dry riverbeds and the associated riparian systems in proximity to the development area are rated as extremely sensitive to development, in particular the Klein-leerkransspruit and Majties (Matjes) River (2012). Overall, these watercourses within the study area are largely in a natural state, when compared the associated Orange River reach, which has modified floodplains and flows (2020). The systems in the area are ephemeral, thus the observed development area systems don't support any wide riparian zones and the vegetation associated with these watercourses was between 0.25 m and 5 m wide were mostly terrestrial (2020).

Implementation of suitable mitigation measures will result in the development having limited impact on the riparian systems. The overall residual impacts for the development were determined to be low, with the exception of water abstraction from the Orange River (2012). The sensitivity of the alluvial watercourses (including the Majties River) and minor drainage lines was determined to be minor-moderate, moderate (2020). The proposed development would not have a detrimental impact on delineated Very High sensitivity areas (DEA Screening Tool) and mainstem rivers and pans. The overall residual impact would be low (2020).

The Project Area was identified with the Environmental Screening Tool as possessing a portion of Very High sensitivity within an Aquatic Biodiversity Theme. This is due to overlap with FEPA subcatchments, Rivers (AB) and wetlands. It is noted from the EnviroSci (2020) report sensitivity of the alluvial watercourses (including the Majties River) and minor drainage lines was determined to be minor-moderate, moderate (2020).

Mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be strictly adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. In order to manage the impacts effectively, additional mitigation management have been recommended and should be put into place for the general impacts on freshwater systems.

5.4.1. Conclusion

13 It is the opinion of the specialist, based on the desktop assessment, that the ecological importance of the site has not decreased considerably. In consideration that the grid infrastructure has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in this report and previous reports are adhered to.

5.5. Impacts on Soil and Agricultural potential

A field survey was not conducted as part of this assessment and the assessment was conducted at a desktop level only. Nevertheless, based on the previous reports and satellite imagery where it is apparent that little has changed in the area since the last field assessment, there is a high level of confidence in the understanding of the present ecological condition. Although the previous assessments did not specifically consider the 400kV powerline, information has been extrapolated for this amendment.

The area comprises red sand soils, many of which are shallow with only a limited portion of moderately deep soils. In addition, the very low rainfall in the area means that the only means of cultivation would be by irrigation. The remote sensing (satellite) image of the area shows absolutely no signs of any agricultural infrastructure and certainly none of irrigation.

The climatic restrictions mean that this part of the Northern Cape is suited at best for grazing and here the grazing capacity is very low, around 40-50 ha/large stock unit. The dominant class of agricultural potential is low. The climatic restrictions mean that the potential impacts will be relatively low, from the viewpoint of soils or agricultural potential. Using the latest land cover data, no areas classed as degraded (such as erosion areas) were present in the vicinity. The main recommendation is that care should be taken within all aspects of the construction phase to ensure that erosion is managed and mitigated appropriately. The Upington-Ilanga project site is a dry area, with fragile vegetation and sandy topsoil and will be susceptible to uncontrolled topsoil removal by wind.

The Project Area was identified with the Environmental Screening Tool as possessing predominantly a Low, with isolated areas of Medium sensitivity within an Agricultural Theme. Mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be strictly adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. To this end, these measures have been included in the updated EMPr for this development as per the requirements of the Environmental Authorisation. In order to manage the impacts effectively, additional mitigation management have been recommended and should be put into place for the general impacts on soils.

5.5.1. 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 some level degradation due to the development of the area. In consideration that the grid infrastructure has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in this report and previous reports are adhered to.

5.6. Visual Impacts

The proposed extension of the validity of the EA by an additional ten years is not expected to alter the influence of the project infrastructure on areas of higher viewer incidence (observers traveling along the roads within the region) or potential sensitive visual receptors (residents of homesteads in closer proximity to the infrastructure).

The proposed amendment to the validity of the EA 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 0.5km radius of the grid connection structures (potentially high significance), but also generally apply to potentially moderate to low visual impacts at distances of up to 3km 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 was not undertaken as part of the initial visual impact assessment. Additionally, to this, and as stated above,

there have been no changes to the environment of the proposed development site or the surrounding environment.

5.6.1. 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 validity of the EA 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.

5.7. Heritage Impacts (including Archaeological Assessment)

The area proposed for development is located approximately 20km east of Upington. Upington originated as a mission station established along the banks of the Orange River in 1871 and run by Reverend Christiaan Schröder and was founded as a town in 1873. According to Gaigher (2012, SAHRIS ID 34135), prior to colonial settlement, this area was occupied by the Korana who had been forced to the outskirts of the Cape Colony along the Gariep River. When this area was eventually settled by colonists, war broke out between the colonial settlers and the Korana, who were then dispersed upon their defeat. As per the report, the cultural landscape of the region consists of two components: the first is a rural area in which the occupants are made up of a pre-colonial (stone age) component and later colonial (farmer) component.

It has been found that the area surrounding Upington has a rich historical and archaeological past (Fourie, 2014 SAHRIS NID 174335). Based on the outcomes of these assessments, it is noted that most of the heritage resources identified are stone age artefact scatters of varying significance. In Fourie's assessment (2014), the fieldwork identified numerous areas where low density scatters of Middle and Later Stone Age lithics were found. As no context and in situ preservation were identified these sites were graded as having low heritage significance. In addition, one possible herder site was identified during the survey. No other material or deposits were identified but this does not exclude the possibility of subsurface material. The ruins of old mining infrastructure was also identified. In Von Vollenhoven's assessment (2012 SAHRIS NID 117902), he identified a number of very interesting and significant rock art engravings depicting various animals including giraffes and an aardvark. In addition, he identified a significant historical site known as the "Rebellion Tree" as well as graves associated with farmers in this area.

The archaeological field assessment completed by CTS Heritage for the Ilanga PV Facility covered some of the areas proposed for development. Stone Age archaeological resources were identified within the development footprint, however, these are considered to be not conservation worthy as they are widely scattered and have no associated contextual material. The findings made during the field assessment were consistent with previous work undertaken in the area. Larger quantities of debitage were found where quarrying of quartz and quartzite had taken place, hornfels percentages climbed in areas closer to the Orange River to the north and east of the study site and almost all the observations were of Middle Stone Age material. Later Stone Age remains were very sparse and limited across the study site. No engravings, formal or informal graves were identified within the development footprint and the only built structures included modern cattle farming kraals, jeep tracks and fences.

These Stone Age heritage finds are considered not conservation worthy. This means these sites have been sufficiently recorded and no further action is required.

The study area is largely underlain by unfossiliferous Precambrian basement rocks of the Namaqua-Natal Province as well as a range of unfosssiliferous to poorly-fossiliferous superficial sediments of Late Caenozoic age. The construction phase of the development will entail extensive surface clearance as well as shallow excavations into the superficial sediment cover (soils, alluvial gravels etc.) and locally also into the underlying bedrock. These excavations notably include site clearance activities as well as excavations for the power line pylon footings. As noted above, however, the overall palaeontollogical sensitivity of the area proposed for the powerline development is LOW. Based on this known palaeontological sensitivity of the area, as well as the findings of the initial assessment for the Karoshoek development (Almond, 2015), it is very unlikely that the proposed amendment to the EA will negatively impact on significant palaeontological heritage resources.

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.

In SAHRA's response to the 2012 HIA, they note that;
"*Although no palaeontological study of the area was compiled, SAHRA is satisfied that the metamorphic rocks and granites that underly the study area are unfossiliferous and that the project poses little threat to significant fossil resources.*

As the archaeological resources in the area are of low significance, the SAHRA Archaeology, Palaeontology and Meteorites Unit has no objection to the development (in terms of the archaeological and palaeontological components of the heritage resources) on condition that, if any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during development, construction or mining, SAHRA and an archaeologist and/or palaeontologist, depending on the nature of the finds, must be alerted immediately."

In light of the above, there is no heritage objection to granting the proposed amendment to the EA for the Karoshoek grid connection based on the current site conditions on condition that the recommendations made in the original HIA completed for this project (Gaigher, 2012) are adhered to.

5.7.1. Conclusion

Based on the information provided above, it is not anticipated that the proposed development will have a negative impact on any archaeological, palaeontological, built environment or cultural landscape heritage resources. Further, based on the information available, it is not likely that the proposed amendment will impact on significant heritage resources and as such, it is recommended that no further heritage assessments are required.

5.8. Socio-Economic Impacts

The environment has not changed significantly since the original assessment, there have not been any significant developments within the affected properties that would have altered the social environment. The Ilanga CSP facility has been constructed and is operational.

The initial assessment of the proposed development identified several impacts both during the construction and the operational phase. It is important to note that the previous assessment included operational impacts, however, the grid connection is handed over to Eskom after construction, resulting in the project to only include construction phase impacts. Thus, for the purpose of this study, the author only considered the construction phase impacts. Based on an understanding of the proposed amendment, it is specialist's opinion that the identified impacts for the construction phase will remain the same. Some additional impacts were identified, i.e. skills development, improved electricity distribution in the region and safety and security issues.

Based on an understanding of the proposed amendment, it is authors opinion that the additional identified impacts for the construction phase, will not have a significant impact on the proposed project. The impact on skills development will have a positive effect for the regional and local workforce, due to the experience that will be transferred from skilled workers. The impact on employment creation, local procurement and economic benefits will not be altered. The additional impact of safety and security has a low significant if the necessary mitigation measures are followed.

5.8.1. Conclusion

The specialist assessed the proposed amendments and confirms that the time lapsed will not change the scope, nature or level of the impacts and therefore no change to the initial assessment conducted should occur. The additional impact identified will have a positive impact, whereas the safety and security impact will have a low significance if the necessary mitigations are followed. Furthermore, from a socio-economic perspective there is no reason why the proposed amendment should not be authorised.

6. CONCLUSION AND MOTIVATION FOR APPROVAL OF THE REQUESTED AMENDMENTS

The Karoshoek Grid Integration Infrastructure was originally developed to be built in as part of the establishment of the Karoshoek Valley Development using various concentrated solar generation technologies. These developments are now proposed to form part of the proposed Upilanga Solar and Green Hydrogen Park development, located at Karoshoek, Upington, Northern Cape Province, South Africa. Upilanga Solar and Green Hydrogen Park falls under the Green Hydrogen National Program Strategic Infrastructure Project (SIP) No. 20e, which was gazetted by the Honourable Minister Patricia De Lille in Government Gazette 437658 on 6 December 2022.

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, as concluded by the specialists who provided inputs to this motivation for amendment (refer to Appendix A-G). **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 site sensitivity verification assessment as part of this amendment application process.
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 socio-economic 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 Karoshoek Grid Integration Infrastructure is planned to provide essential infrastructure to the Upilanga Solar and Green Hydrogen Park, which is registered under the Green Hydrogen National Program Strategic Infrastructure Project (SIP No) 20e.

Based on the nature of the requested amendment for the Karoshoek Grid Integration Infrastructure and Associated Infrastructure, the specialist findings confirmed that the environment has not materially changed since the undertaking of the EIA in 2012, 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: 14/12/16//3/3/2/288) issued for the proposed construction of the Karoshoek Grid Integration Infrastructure and Associated Infrastructure, as per the requirements of the DFFE. 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 are being undertaken:

- The database/register of I&APs has been updated and maintained.
- Placement of site notices at the site during **June 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 **30 May 2023** (refer to **Appendix H4** and **Appendix H5**).
- Placement of an advertisement in the **Volksblad** newspaper on **Thursday 1th June 2023** announcing the availability of the Motivation Report for a 30-day review and comment period.
- The Motivation Report was made available for the 30-day review and comment period from **Tuesday 30 May 2023 to Friday 30 June 2023**. The report was 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 also be included and responded to in a Comments and Responses Report, which will 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.