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HERITAGE SCREENER

CTS Reference Number:	CTS22_274
SAHRIS Reference:	
Client:	Savannah Environmental (Pty) Ltd
Date:	February 2023
Title:	Proposed Springbok Wind Energy Facility: Application for Extension of the Environmental Authorisation

Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape

RECOMMENDATION
The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

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1. Project Development Summary

Mulilo Renewable Projects Developments (Pty) Ltd (Mulilo) 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. Savannah Environmental have been appointed as the Registered Environmental Assessment Practitioner (EAP) to prepare the Application. The EA Amendment will be completed in terms of Regulation 30(1)(a) of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, including additional specialist 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 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.”

It should 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, the potential environmental impacts associated with the project and receiving environment are well understood.

In line with the DFFE recommendations for an amendment to a validity extension to be made that extends 10 years - in order to ensure that the amendment will not lead to the occurrence of any negative environmental impacts other than those already assessed in the Environmental Impact Assessment (EIA), respective specialist studies (based

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on the site sensitivities and specialist inputs identified during the EIA process and consequent studies) will be undertaken in order to assess and to gauge if conditions have changed at the project site.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	DFFE

3. Property Information

Latitude / Longitude	29°36'22.43"S 17°54'44.65"E
Erf number / Farm number	
Local Municipality	Nama Khoi
District Municipality	Namakwa
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture

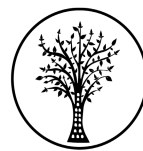
4. Nature of the Proposed Development

Total Development Area	TBA
Depth of excavation (m)	TBA
Height of development (m)	TBA

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5. Category of Development

x	Triggers: Section 38(8) of the National Heritage Resources Act
	Triggers: Section 38(1) of the National Heritage Resources Act
x	1. Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
	2. Construction of a bridge or similar structure exceeding 50m in length.
	3. Any development or activity that will change the character of a site-
x	a) exceeding 5 000m ² in extent
	b) involving three or more existing erven or subdivisions thereof
	c) involving three or more erven or divisions thereof which have been consolidated within the past five years
	4. Rezoning of a site exceeding 10 000m ²
	5. Other (state):

6. Additional Infrastructure Required for this Development

NA

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7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)

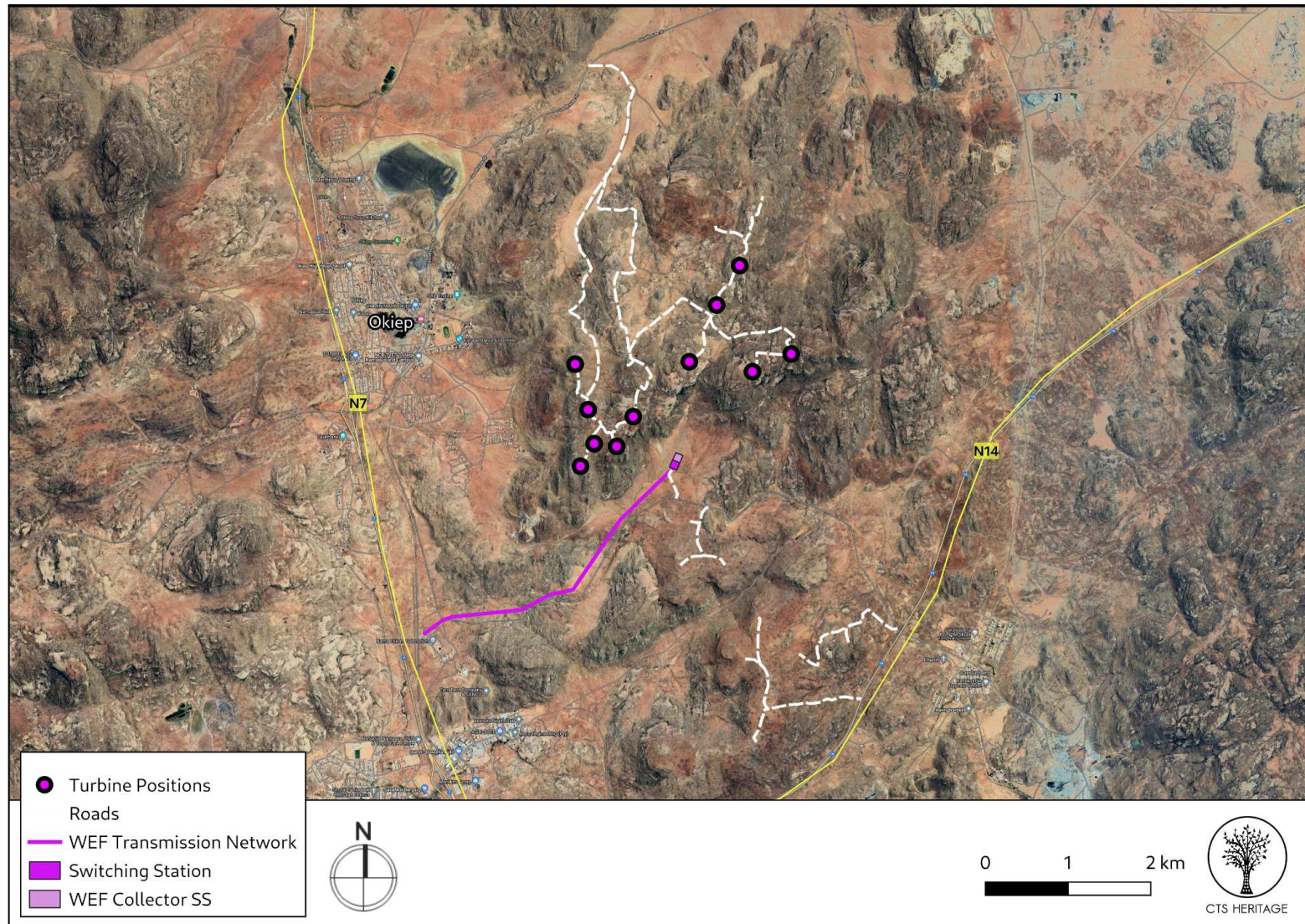


Figure 1b. Overview Map. Satellite image (2022) indicating the proposed development area

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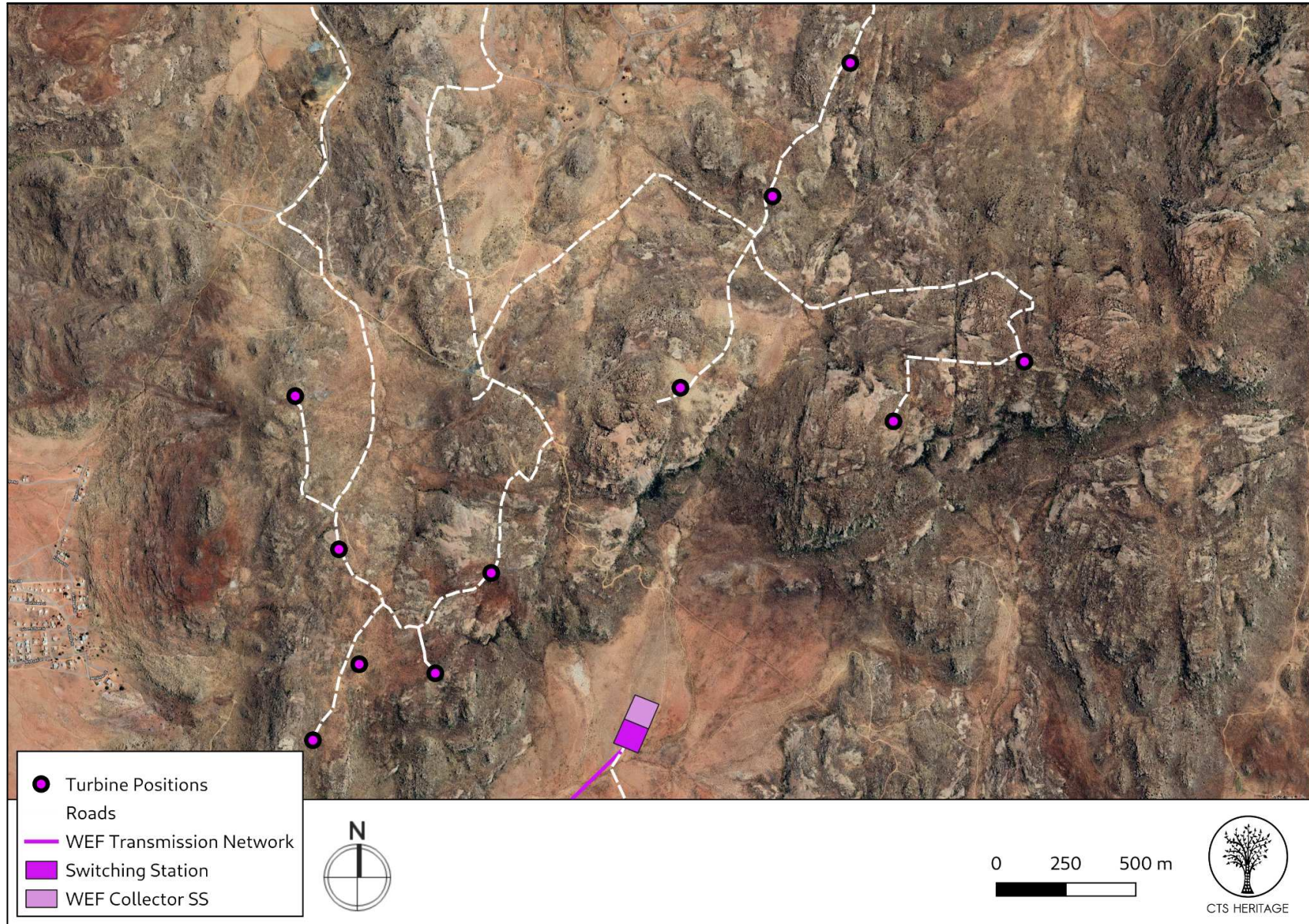


Figure 1c. Overview Map. Satellite image (2022) indicating the proposed development area

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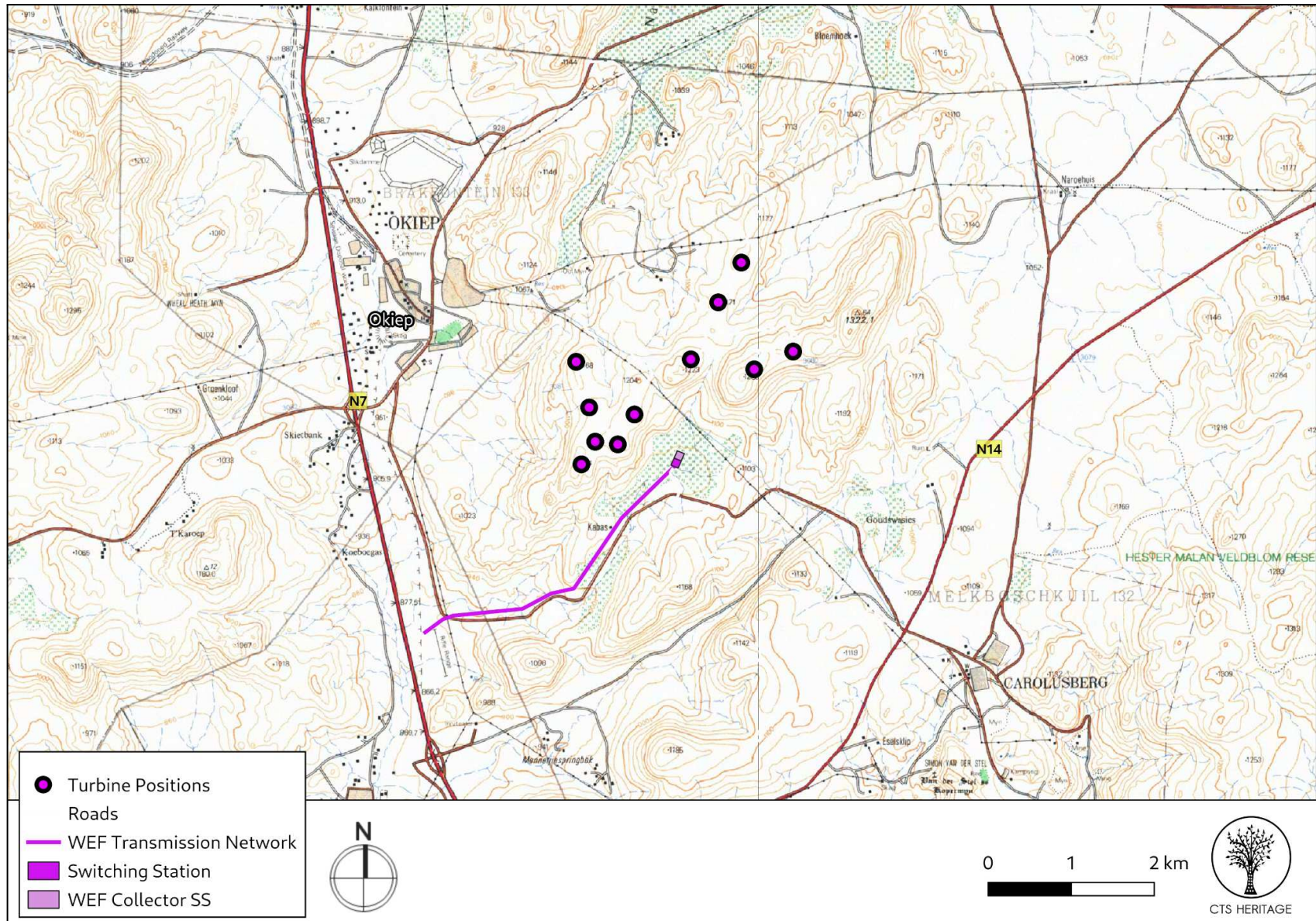


Figure 1d. Overview Map. Extract from 1:50 000 Topo

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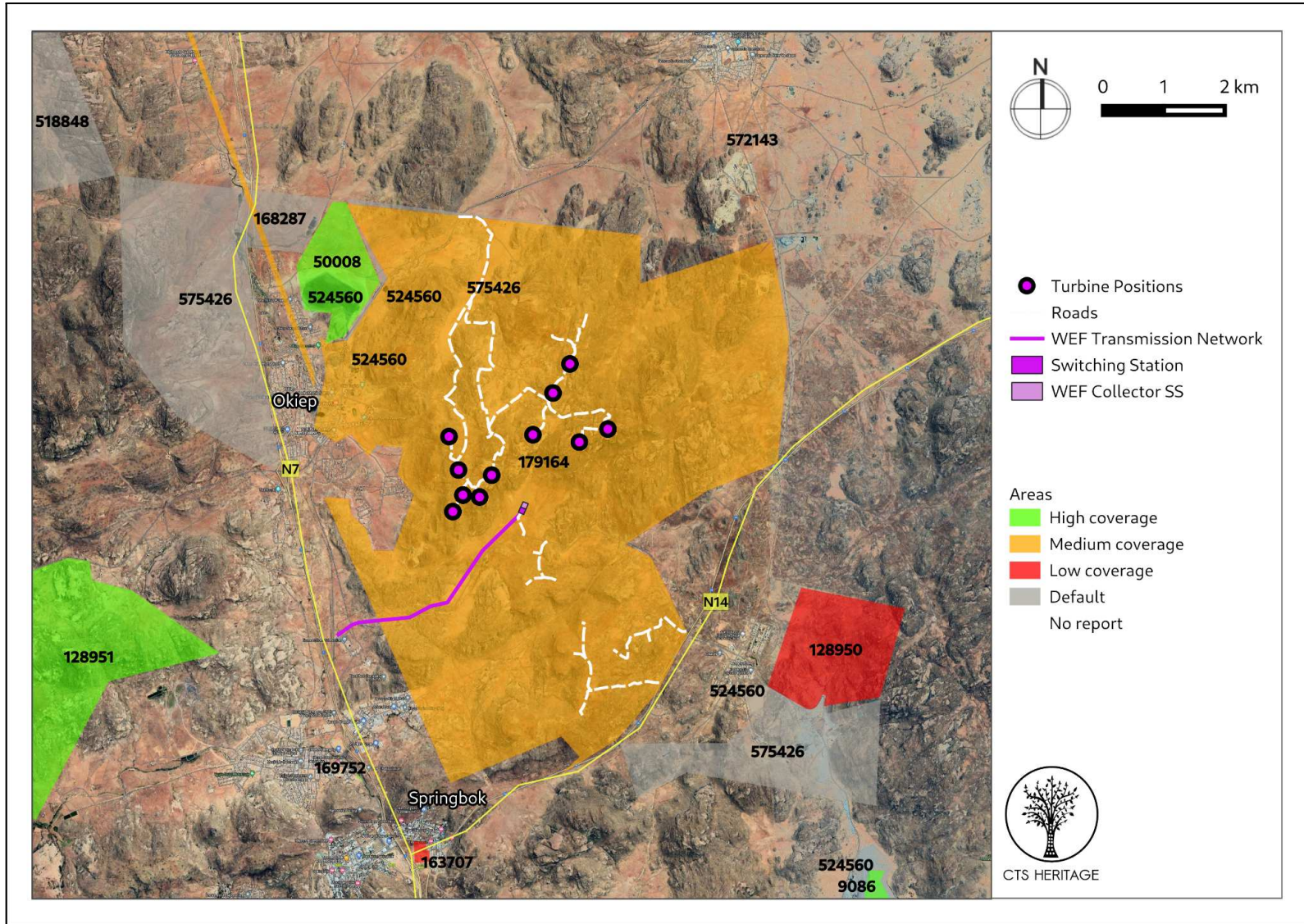


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments covering the proposed development area with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

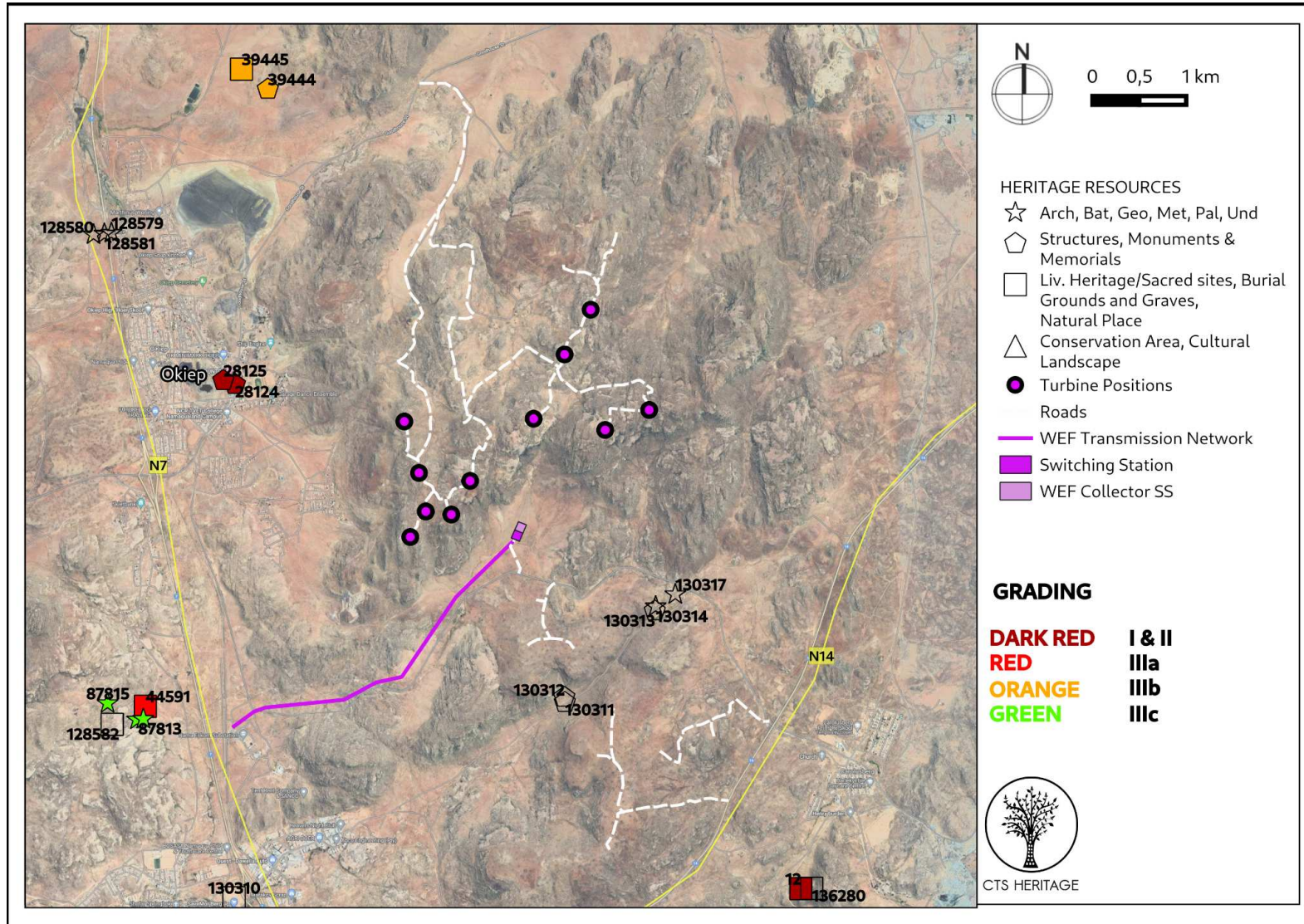


Figure 3. Heritage Resources Map. Heritage Resources previously identified within the study area, with SAHRIS Site IDs indicated in the insets below. Please See Appendix 4 for full description of heritage resource types.

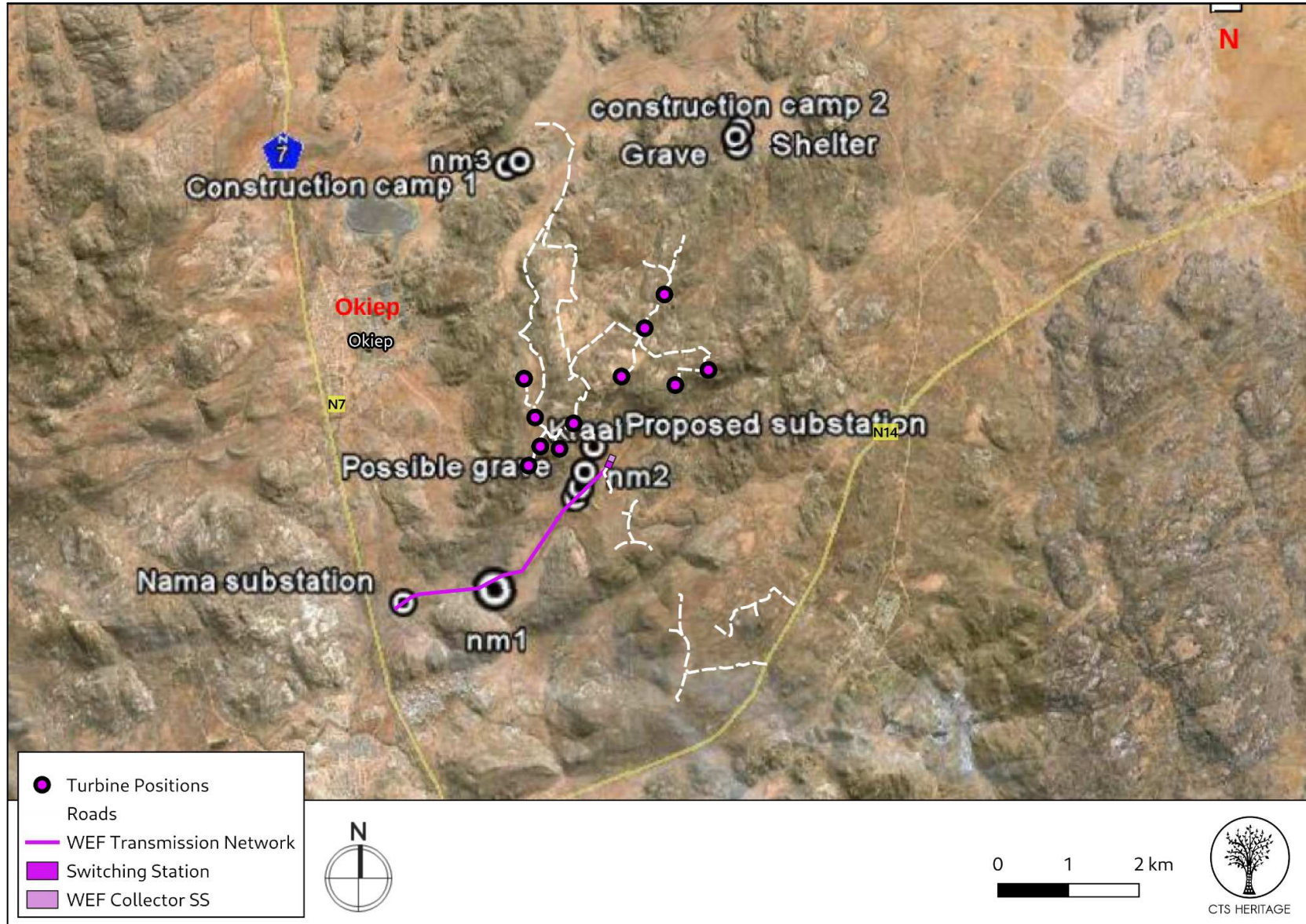


Figure 3a. Heritage Resources Map. Heritage Resources previously identified by Kaplan (2010) overlain with current development layout



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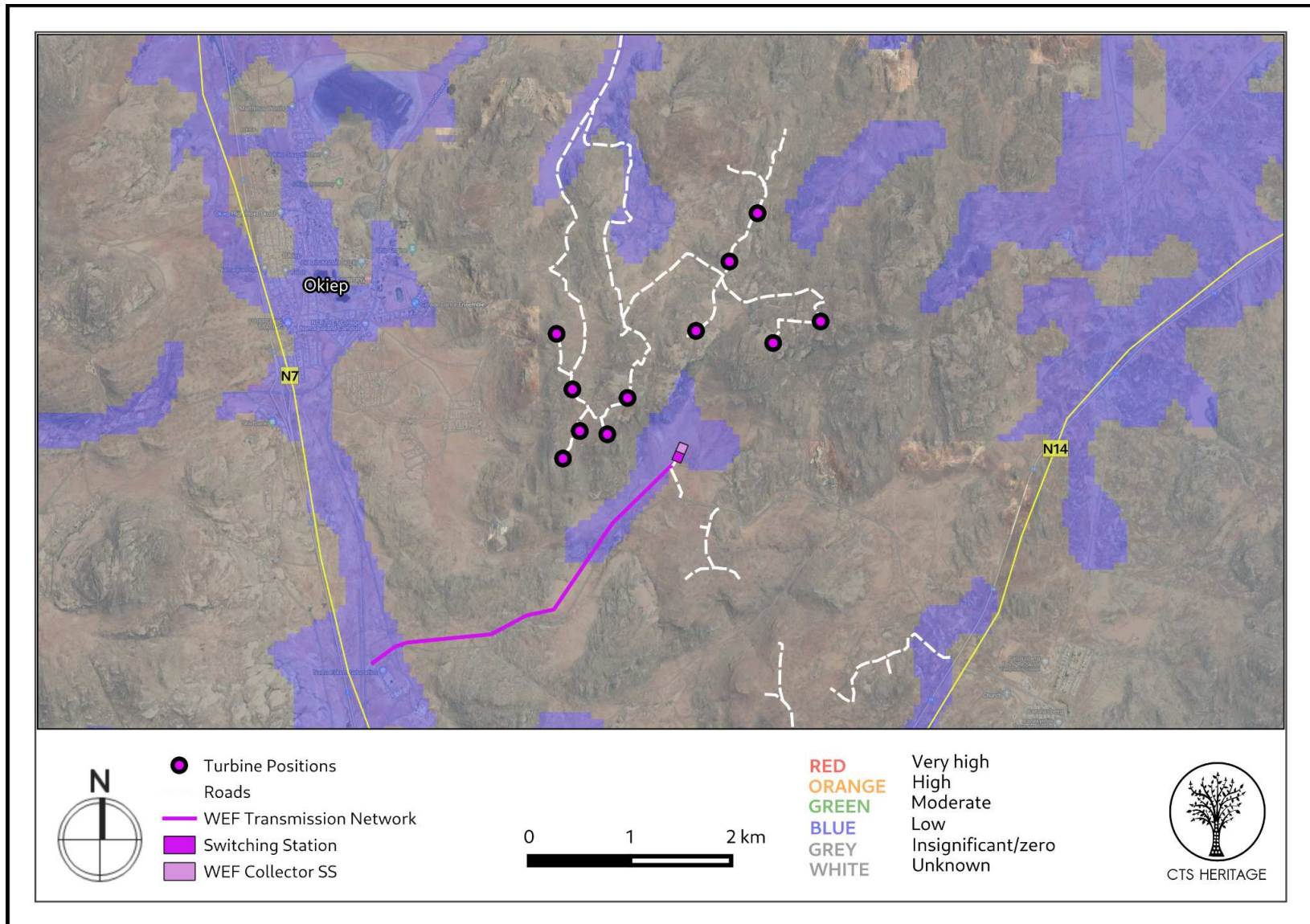


Figure 4a. Palaeosensitivity Map. Indicating fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

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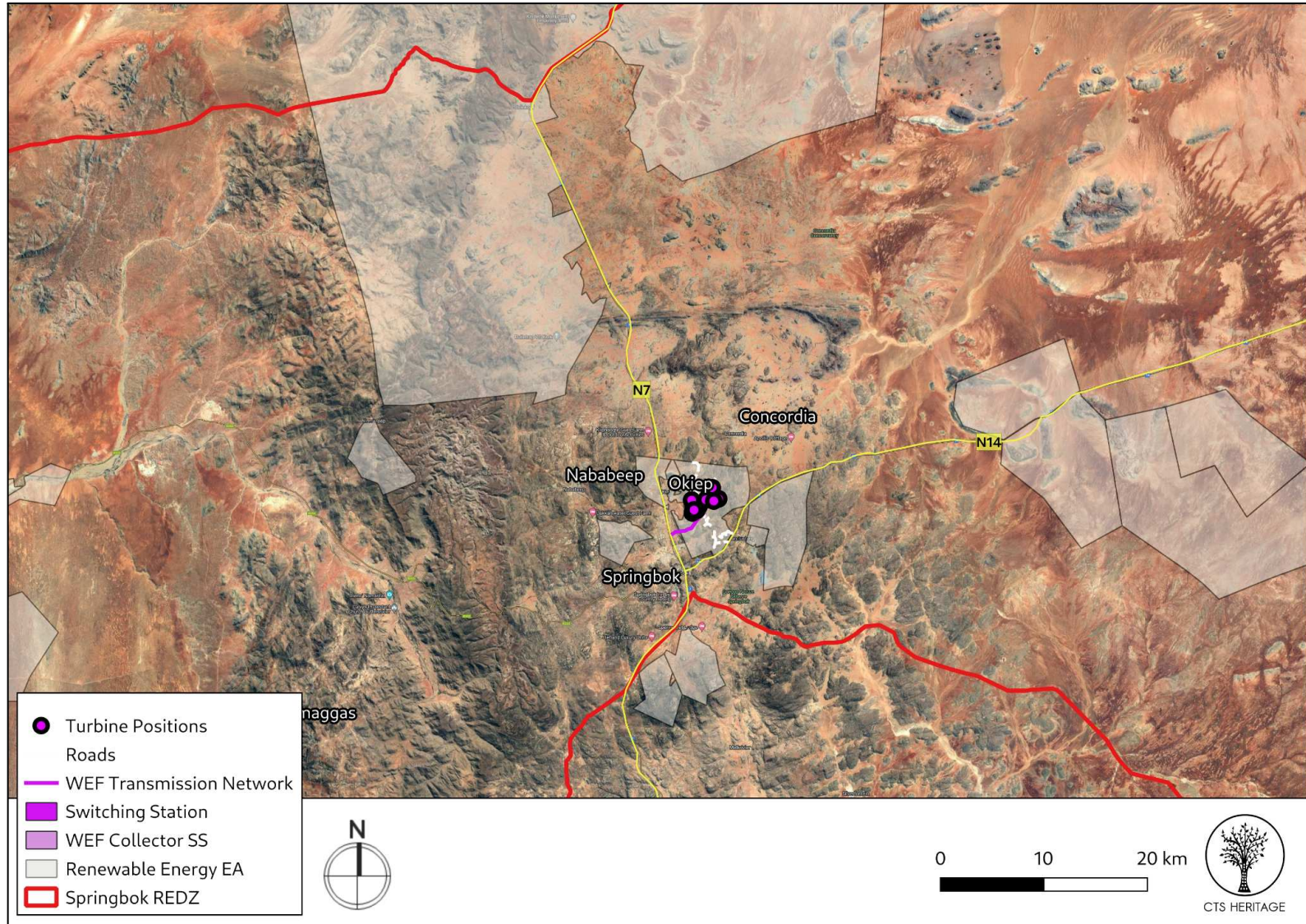


Figure 5. Cumulative Impact Map. Indicating other Renewable Energy Facilities that have been granted Environmental Authorisation (EA). Each project will have associated OHL infrastructure.



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8. Heritage Assessment

TBA

Cultural Landscape

Prior to 1652, the indigenous peoples (the Khoisan or Nama) of the area extracted raw or "native copper" from the gneiss and granite hills that make up the surrounding Namaqualand Copper belt. This copper was beaten into decorative items, worn as bangles and neck adornments. Early settlers in the Cape Colony heard rumours of mountains in the north-west that were fabulously rich in copper. Governor Simon van der Stel was inclined to believe these tales when, in 1681, a group of Namas visited the Castle in Cape Town and brought along some pure copper. Van der Stel himself led a major expedition in 1685 and reached the fabled mountains on 21 October. Three shafts were sunk and revealed a rich lode of copper ore - the shafts exist to this day. For almost 200 years nothing was done about the discovery, largely because of its remote location. The explorer James Alexander was the first to follow up on van der Stel's discovery. In 1852 he examined the old shafts, discovered some other copper outcrops and started mining operations. Prospectors, miners and speculators rushed to the area, but many companies collapsed when the logistical difficulties became apparent. The first miners were Cornish, and brought with them the expertise of centuries of tin-mining in Cornwall. The ruins of the buildings they constructed as well as the stonework of the bridges and culverts of the railway built to transport the ore to Port Nolloth, can still be seen. The Namaqualand Railway started operating in 1876 and lasted for 68 years, carrying ore to Port Nolloth and returning with equipment and provisions. The carriages were initially pulled by mules and horses, which were later replaced by steam locomotives - the last of these, the *Clara*, stands at Nababeep. Nowadays road transport is used to convey the ore to the railhead at Bitterfontein. The other principal mines of the area are at Carolusberg and Nababeep.

Springbok (was Springbokfontein until 1911) is located in a valley that lies between the high granite domes of the *Klein Koperberge* (Small Copper Mountains). Copper was first discovered in the area by Simon van der Stel in 1685 at "Blue Mine" - this event is said to mark the beginnings of the mining industry in South Africa. In 1852, the farm on which the town is located was purchased with the intention of establishing a copper mine. The town layout dates to 1862. During the Second Boer War, the mountains around Springbok were used by the Boer forces. The "klipkoppie" was used for a fort under General Manie Maritz as it provided an excellent vantage point across the valley. Remains of stone walls inside the koppie remain from this time. Monument Koppie, a small hill situated in the centre of town, remains a historical site and landmark. While most of this area was destroyed by dynamite planted by a commando led by General Jan Smuts, some of the remains still stand today. Okiep's mine saw action on 4 April 1902 during the Anglo-Boer war when some 700 officers and men of the 3rd Battalion Queen's Royal Regiment, 5th Royal Warwickshire Regiment, Namaqualand Border Scouts, the Town Guard and the Cape Garrison Artillery, withstood a 30-day siege by Jan Smuts' forces. The village of Concordia with a garrison of 100 men, surrendered a day after the siege started. On 4 May 1902 a British relief column arrived from Port Nolloth and ended the siege. A ruined blockhouse is still visible on a hill north-east of the town.

In Martin's assessment of an earlier proposed amendment to the Springbok WEF (2018), he notes that "The site itself cannot be regarded as a heritage resource of outstanding value, but it forms an inalienable part of the broader cultural landscape associated with the copper mining industry." He goes on to note that the receiving landscape "comprises a holistic, multi-layered representation of chronological events that cover several significant heritage elements, the most significant being: Displacement of indigenous populations and the subsequent demise of the cultural heritage and language. Establishment of the first sustained mining industry in South Africa. Area of conflict, both between colonists and indigenous populations as well as between colonial powers." Martin (2018) concludes by stating that "the proposed Namaqualand Copper Mining Cultural Landscape is being nominated as an industrial cultural landscape. It may be argued strongly that the intervention of the turbines will purely be another layer in this landscape and should therefore be allowed" on condition that the strict mitigation measures outlined in the VIA for the project are implemented.

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Archaeology

Many Heritage Assessments have been conducted within this general area (Appendix 2) which have identified a number of significant heritage resources (Appendix 1), the majority of which are of archaeological significance. According to Van Ryneveld (2017), “The extremely arid landscape, characterized by flat drainage plains, or peneplains of red Hutton sands, aeolian sands dating back to the Quaternary, are intersected by granite inselbergs protruding above the peneplains and including amongst others the Aggeneys, Black and Gamsberg Mountains. This landscape is reasonably inferred to represent a basic Holocene landscape (Beaumont et. al. 1995), with much wetter conditions having had prevailed throughout the Plio- and Pleistocene, or during Earlier (ESA) and Middle Stone Age (MSA) times.” The general area proposed for development has been occupied since the Early Stone Age as evidenced by Early Stone Age artefacts found throughout the Karoo, fairly consistently until modern times. Beaumont et al. (1995) has described the widespread but low density stone artefact scatter of Early and Middle Stone Age material across areas of Bushmanland. In addition, the Heritage Impact Assessments conducted in the area have identified a number of Middle Stone Age sites. Further, according to Morris (2011a) Later Stone Age (LSA) sites are the predominant archaeological trace noted in surveys in the Aggeneys-Pofadder region. The Later Stone Age traces include ceramics, ostrich egg shell as well as “boat-shaped grinding grooves in the outcropping bedrock”. According to Webley and Halkett (2012), “These sites probably represent transient settlement by transhumant hunter-gatherers or herders, moving through the area.” Further, Webley and Halkett (2012) note that “LSA sites (consisting mainly of quartz flakes) were concentrated at the base of small koppies. This information is supported by Morris (2011a, b & c) and Pelsler (2011).” Additional heritage resources that are likely to be found within the development area include marked and unmarked burial grounds and graves, as well as rock art in the form of rock engravings on the outcrops.

The area proposed for the Springbok WEF was assessed by Kaplan in 2010, both in May 2010 and October 2010. Kaplan (2010) identified only six non-diagnostic Stone Age flakes in his assessment of the development, one large boulder ‘shelter’, with a few Middle and Later Stone Age artefacts and some very faded rock art, was found on the edge of proposed Construction Camp 2, which is situated in the mountains, south of the Okiep-Concordia road. Additional finds from Kaplan (2010) include the collapsed remains of a (modern) veewagterhuis (shepherds hut) were documented on the Nama West site (near Nababeep) and the ruined, circular remains of a modern building/structure/holding kraal were documented in the powerline servitude. Additionally some historic graves were found alongside the gravel road to Nababeep, a possible grave was located within the powerline servitude and a Christian grave was found about 75 m west of the boulder shelter, on the edge of the proposed construction camp/laydown area. All graves are rated as having high significance and need to be treated sensitively. Unfortunately, no co-ordinates are provided for these sites and their location has had to be approximated from maps included in Kaplan’s report (2010). The current layout is mapped over the map from Kaplan (2010) in Figure 3a.

Kaplan (2010) made the following recommendations which are still applicable; “A walk through survey of the final power line corridor must be undertaken by a heritage specialist to identify areas where mitigation may be required. 2. The position of the turbines in the final layout must be inspected by an archaeologist before construction. 3. During the construction phase the shelter and the identified graves should be cordoned off to ensure that no accidental damage to the heritage sites occurs. 4. A report from the survey must be submitted to SAHRA APM unit for further comments.”

Palaeontology

The area proposed for development is underlain by sediments of zero (granites), low and moderate palaeontological sensitivity according to the SAHRIS Palaeosensitivity Map (Figure 4). The sediments of low palaeontological sensitivity consist of aeolian dune sands while the sediments of moderate palaeontological sensitivity consist of Gneiss and calcrete. Importantly, the aeolian sands marked as having low palaeontological sensitivity in Figure 4 are continuous with the Koekenaap and Graauw Duinen Formations

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further south which are part of the West Coast Group and are determined to have very high palaeontological sensitivity. In the marine deposits that are part of the West Coast Group, fossil molluscan seashells, brachiopods, crustaceans (barnacles, crabs, prawns, ostracods), echinoids, polychaete worm tubes, corals, bryozoans and foraminifera have been found. Shark teeth are common, and other fish teeth occur as well. Bones of whales, dolphins, seals and seabirds have also been found. Trace fossils made by prawns, worms, echinoids, anemones, bivalves, fish *etc.* are pervasive. The bones of land mammals appear in estuarine and lagoonal deposits. Remnants of land snails, tortoises, moles, ostrich bones and egg shells and insect traces occur on the aeolianites. Larger animal bones are sparsely scattered on palaeosurfaces (such as from bovids, zebra, rhino, elephant, pigs *etc.*). The deposits associated with vleis, pans and springs are very rich, especially for the fossils of birds and micromammals. It is in these aeolianites (of low palaeontological sensitivity) that the type site for an Early Cretaceous dinosaur called *Kangnasaurus* was located in 1915.

According to the PIA completed for the WEF by Almond in 2010, “The proposed wind farm development either side of the N7 between Nababeep and Carolusberg, to the north of Springbok, Namaqualand (Northern Cape Province) is largely underlain by Late Precambrian (Mid Proterozoic) basement rocks - granites and gneisses of the Namaqua-Natal Metamorphic Belt - that are entirely 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. The two proposed development sites west and east of the N7 are of similar, very low palaeontological sensitivity. Therefore no further palaeontological mitigation is recommended for this project.”

Previous processes

In their most recent response to the amendment application submitted for the Springbok WEF in 2018, SAHRA notes that:

“The SAHRA Archaeological, Palaeontological and Meteorites (APM) Unit has no objection to proposed amendment to the EA and supports the recommendations of the specialists. The comments provided in the Final Comment on SAHRIS Case ID 6537 issued on the 07/10/2014 and the Letter issued on the 02/06/2016 still apply and must be incorporated into the EMPr along with the following conditions:

- Any further changes to the WEF layout should be approved by an archaeologist and by SAHRA;
- The graves identified as part of the original assessment must be cordoned off to ensure their protection;
- Any structures older than 60 years is protected under s. 34 of the NHRA and as such any alteration or demolition of these structures must be approved by the Northern Cape Provincial Heritage Resources Authority;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;
- As the Final EA Amendment report has been completed, this comment must be forwarded directly to the competent authority for their consideration as part of the decision making process. Proof of the submission and receipt thereof must be provided to SAHRA;
- Should the project be granted an amended Environmental Authorisation, SAHRA must be notified and all relevant documents submitted to the case file.”

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It is confirmed that there are no new assessments and/or guidelines which are now relevant which were not undertaken during the initial assessment. The SAHRA Minimum Standards for Impact Assessments (2007) remain applicable.

Cumulative Impact

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.

Site Sensitivity Verification

According to the DFFE Screening Tool analysis completed for both Portion D and Portion E, 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 this assessment 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 this 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.

Statement on environmental processes impacting on archaeological and palaeontological heritage

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.

Validity Extension

In light of the above, there is no heritage objection to granting the extension to the validity to develop the **Alldays PV Facility** and grid connection based on the current site conditions on condition that the recommendations made in the original HIA completed for this project (Gaigher, 2013 and Durand, 2013) are adhered to.

In conclusion

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. These are listed above. No new

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mitigation measures should be added to the Environmental Authorisation if the DFFE decides to extend the commencement period as per the application.

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APPENDIX 1

List of heritage resources within the development area

Site ID	Site no	Full Site Name	Site Type	Grading
28125	9/2/066/0017	Cornish pump engine complex, Okiep, Namaqualand District	Structures	Grade II
87813	KLP001	Klipdam 001	Artefacts	Grade IIIc
87815	KLP003	Klipdam 003	Artefacts	Grade IIIc
44590	KDM01	Klipdam 01	Stone walling	Grade IIIc
39444	OKIEP001	Okiep 001	Structures	Grade IIIb
39445	OKIEP002	Okiep 002	Living Heritage/Sacred sites	Grade IIIb
44591	KDM02	Klipdam 02	Burial Grounds & Graves	Grade IIIa
128579	2917DB/SPVKF134/12/2013/054	Solar PV Klipdam Farm 134/17-site 054	Artefacts	Ungraded
128580	2917DB/SPVKF134/12/2013/055	Solar PV Klipdam Farm 134/17-site 055	Stone walling	Ungraded
128581	2917DB/SPVKF134/12/2013/056	Solar PV Klipdam Farm 134/17-site 056	Artefacts	Ungraded
128582	2917DB/SPVKF134/12/2013/057	Solar PV Klipdam Farm 134/17-site 057	Burial Grounds & Graves	Ungraded
130310	MBK001	Melkboschkuil No. 132/38-001	Burial Grounds & Graves	
12	9/2/066/0008	Van der Stel's Copper Mine, Carolusberg, Namaqualand District	Place	Grade II
130311	MBK002	Melkboschkuil No. 132/38-002	Building	
130312	MBK003	Melkboschkuil No. 132/38-003	Structures	

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130313	MBK004	Melkboschkuil No. 132/38-004	Structures	
130314	MBK005	Melkboschkuil No. 132/38-005	Stone walling	
130317	MBK008	Melkboschkuil No. 132/23-008	Stone walling	
28124	9/2/066/0016	Old smoke stack, Okiep, Namaqualand District	Building	Grade II
136280	Simon Van Der Stel	Simon Van Der Stel	Place	

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APPENDIX 2

Reference List with relevant AIAs and PIAs

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
128950	Heritage Impact Assessment Specialist Reports	Andrew B Smith	23/08/2013	HIA Melkboskuil
128951	Heritage Impact Assessment Specialist Reports	Andrew B Smith	23/08/2013	HIA Klipdam
163707	Non Impact Assessment Related Reports	Cindy Postlethwayt	25/02/2013	NID for Proposed business premises on Erf 2883, Springbok
163712		Cindy Postlethwayt	29/10/2013	Comments LIHRA
168287	HIA Phase 1	Lita Webley	01/04/2014	Heritage Impact Assessment: proposed Rehabilitation of the N7 between Okiep (KM 7.0) and Steinkopf (KM 47.2), Northern Cape
169697	AIA Desktop	Jonathan Kaplan	23/07/2014	
169752	HIA Letter of Exemption	Jonathan Kaplan	27/06/2014	RECOMMENDED EXEMPTION FROM AN ARCHAEOLOGICAL IMPACT ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT ON ERVEN 4995, 4997, 5007, & 5009, HARMONY ESTATE, SPRINGBOK (NAMA KHOI MUNICIPALITY), NORTHERN CAPE PROVINCE
179164	PIA Desktop	John E Almond	01/04/2010	Proposed wind farm near Springbok, Namaqualand, Western & Northern Cape Provinces
30510	HIA Phase 1	Stephan Gaigher	02/05/2012	Heritage Impact Assessment Report Basic Assessment: Proposed Establishment of the O'Kiep 3 Photovoltaic Solar Facility on a Portion of the Farm Brakfontein 133 near Springbok in the Northern Cape Province
50008	PIA Desktop	Jennifer Botha-Brink	15/08/2012	Palaeontological Impact Assessment of the Proposed O'Kiep 3 PV Solar Energy Facility Project, Northern Cape Province

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8281	AIA Phase 1	Jonathan Kaplan	10/10/2010	ARCHAEOLOGICAL IMPACT ASSESSMENT OF A PROPOSED WIND ENERGY FACILITY NEAR SPRINGBOK NORTHERN CAPE
8282	AIA Desktop	Jonathan Kaplan	08/05/2010	ARCHAEOLOGICAL SCOPING STUDY OF TWO PROPOSED WIND FARM SITES (NAMA EAST AND NAMA WEST) NEAR SPRINGBOK, NORTHERN CAPE PROVINCE
9086	AIA Phase 1	Celeste Booth	01/04/2012	A Phase 1 Archaeological Impact Assessment for the Proposed Establishment of the Inkululeko Solar Energy Facility on Portion 2 of the Farm Carolus Poort 167, near Noupoort, Northern Cape Province
9158	Site Inspection Report	Chris Harris	16/05/2012	Report on site visit to potential meteorite impact site near Kangnas

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APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEA	Department of Environmental Affairs (National)
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources (National)
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

	RED:	VERY HIGH - field assessment and protocol for finds is required
	ORANGE/YELLOW:	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	GREEN:	MODERATE - desktop study is required
	BLUE/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
	GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required

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WHITE/CLEAR:

UNKNOWN - these areas will require a minimum of a desktop study.

APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

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DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

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(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
- compilation of a report for a component of a heritage impact assessment not already undertaken in the area
- undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.

Note:

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

APPENDIX 5 -Summary of Specialist Expertise

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, and currently completing an MPhil in Conservation Management, heads up the heritage division of the organisation, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is on the Executive Committee of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Recently, Jenna has been responsible for conducting training in how to write Wikipedia articles for the Africa Centre's WikiAfrica project.

Since 2016, Jenna has drafted over 50 Heritage Impact Assessments throughout South Africa.

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