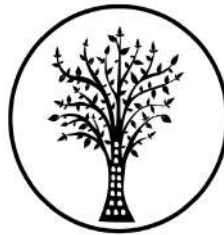


ARCHAEOLOGICAL SPECIALIST STUDY

In terms of Section 38(8) of the NHRA for a

Proposed development of the Kudu WEF near Aberdeen, Eastern Cape

Prepared by



CTS HERITAGE

Jenna Lavin and Nic Wiltshire

In Association with

Savannah Environmental

July 2023



CTS HERITAGE

EXECUTIVE SUMMARY

FE Kudu (Pty) Ltd is proposing the development of a wind energy facility and associated infrastructure on a site located approximately 40km west of Aberdeen in the Eastern Cape Province. The project is located within the Dr Beyers Naude Local Municipality and the greater Sarah Baartman District Municipality. The project site comprises a single affected property, Portion 2 of Farm Oorlogspoort 85. The project is known as the FE Kudu Wind Energy Facility. The project is planned as part of a cluster of renewable energy projects, which includes a second wind energy facility with a capacity of up to 240MW (FE Tango Wind Energy Facility), located approximately 20km east of the FE Kudu Wind Energy Facility.

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the Booth and Sanker (2013, SAHRIS NID 251161), and CTS Heritage (2021). It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age and Later Stone Age period were found within the development area which is consistent with observations on neighbouring farms through impact assessments and research surveys. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

All of the other significant resources identified are either historic kraals, occupied farm werfs or the ruins of historic farm werfs. While no direct impact to any of these sites is anticipated in the layout provided, it is recommended that a no-development buffer of 500m is implemented around these sites.

Recommendations

Based on the outcomes of this report, it is not anticipated that the proposed development of the wind energy facilities will negatively impact on significant archaeological heritage on condition that:

- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. 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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and ECPHRA must be alerted immediately to determine an appropriate way forward.



CTS HERITAGE

CONTENTS

1. INTRODUCTION	2
1.1 Background Information on Project	2
1.2 Description of Property and Affected Environment	3
2. METHODOLOGY	4
2.1 Purpose of Archaeological Study	4
2.2 Summary of steps followed	4
2.3 Constraints & Limitations	8
3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT	8
4. IDENTIFICATION OF HERITAGE RESOURCES	11
4.1 Field Assessment	11
4.2 Archaeological Resources identified	18
4.3 Selected photographic record	24
5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT	30
5.1 Assessment of impact to Archaeological Resources	31
6. CONCLUSION AND RECOMMENDATIONS	36
7. REFERENCES	38



CTS HERITAGE

1. INTRODUCTION

1.1 Background Information on Project

FE Kudu (Pty) Ltd is proposing the development of a wind energy facility and associated infrastructure on a site located approximately 40km west of Aberdeen in the Eastern Cape Province. The project is located within the Dr Beyers Naude Local Municipality and the greater Sarah Baartman District Municipality. The project site comprises a single affected property, Portion 2 of Farm Oorlogspoort 85. The project is known as the FE Kudu Wind Energy Facility. The project is planned as part of a cluster of renewable energy projects, which includes a second wind energy facility with a capacity of up to 240MW (FE Tango Wind Energy Facility), located approximately 20km east of the FE Kudu Wind Energy Facility.

The entire extent of the site falls within the Beaufort West Renewable Energy Development Zones (i.e. REDZ Focus Area 11). The undertaking of a basic assessment process for the project is in-line with the requirements stated in GNR 114 of 16 February 2018.

The Kudu Wind Energy Facility will have a contracted capacity of up to 622.5MW and comprise wind turbines with a capacity of up to 7.5MW each. The project has a preferred project site of approximately ~9 170ha. The current infrastructure is preliminarily proposed and will be updated once an optimised layout with all sensitivities considered has been generated. Access to the site will be via an access road off of the nearby R61. The FE Kudu Wind Energy Facility project site is proposed to accommodate the following infrastructure:

- Wind turbines
- Concrete turbine foundations and turbine hardstands
- An on-site substation hub incorporating:
 - A132/33kV On-site substation
 - Switchyard with collector infrastructure
 - Battery Energy Storage System (BESS)
- A balance of plant area incorporating:
 - Temporary laydown areas
 - A construction camp laydown and temporary concrete batching plant
 - Operation and Maintenance buildings
- Cabling between the turbines, to be laid underground where practical.
- Access roads to the site and between project components with a width up to 10m and a servitude of 13.5m.

The project is intended to provide electricity to the national grid through the Department of Mineral Resource and Energy's (DMRE) Renewable Energy Independent Power Producer Procurement (REIPPP) Programme or other public or private off-taker programmes.



CTS HERITAGE

1.2 Description of Property and Affected Environment

The proposed Kudu WEF lies in a flat floodplain between the Oorlogspoortberge and the Kambdebooberge 45km west of the town of Aberdeen. The tarred R61 main road lies just to the south of the study site and links the area to Beaufort West 140km away in a northwesterly direction from the study area. The majority of the turbines have been positioned in a grid alignment running southwest to northeast to take advantage of the predominant winds sweeping through the open and level ground over which the the WEF is proposed. Jeep tracks and a few well constructed gravel roads connect the farms and many of the WEF access roads have been planned along these existing routes. Small-scale crop agriculture is also present and clustered along the water courses growing fodder for the stock farming production in the area.

The vegetation observed during the survey had been severely degraded by the multi-year drought and what was left for sheep to graze. The Kudu WEF lies on the farm Oorlogspoort 85 and the owners operate the farm from the Rooidraai werf. Besides sheep farming, kudu and other wild smaller antelope species are being kept which complement the tourism (accommodation and bird watching) offered on the farm. The vegetation is sparse and falls within the Karoo biome of succulents and shrubs. The WEF is one of many renewable energy projects proposed in the area around Aberdeen as it has reliable wind, abundant sun exposure and direct access to the national grid which passes directly through the study area.

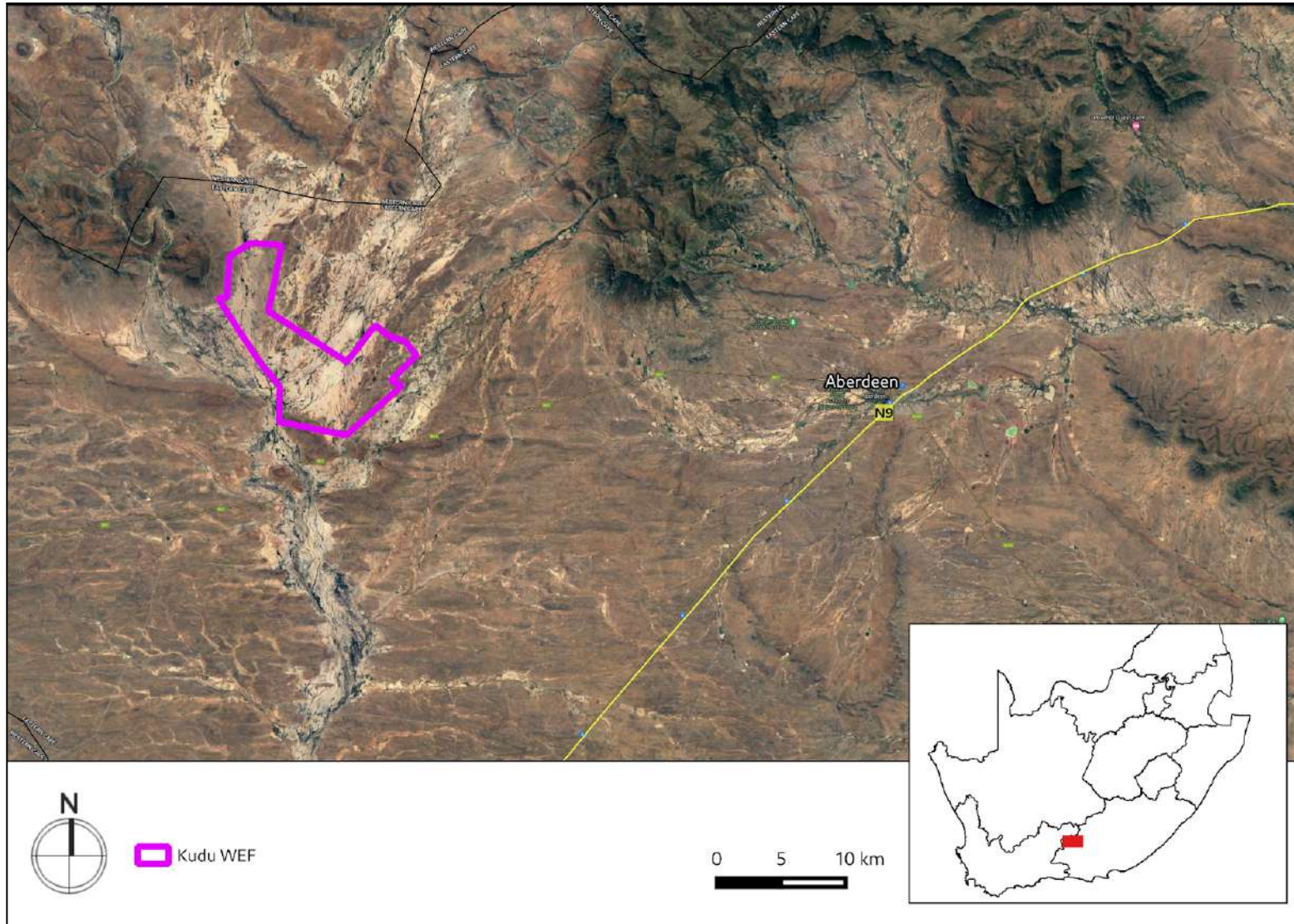


Figure 1.1: Satellite image indicating proposed location of development



CTS HERITAGE

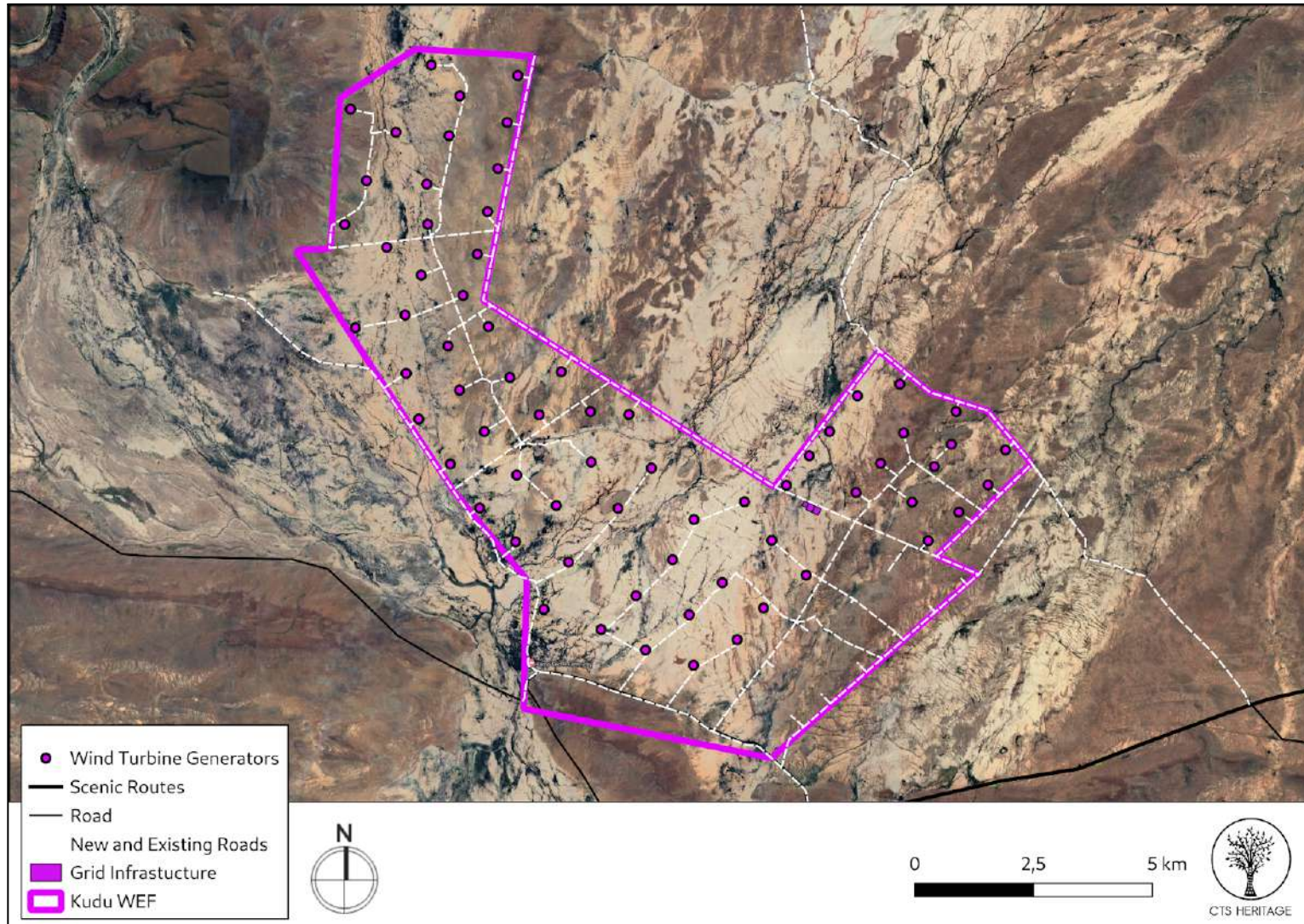


Figure 1.2: Proposed project boundary

CTS Heritage

@Bonne Esperance, 238 Queens Road, Seaforth, Simon's Town, 7975

Tel: +27 (0) 82 303 7870/ 083 619 0854 Email: info@ctsheritage.com Web: www.ctsheritage.com



CTS HERITAGE

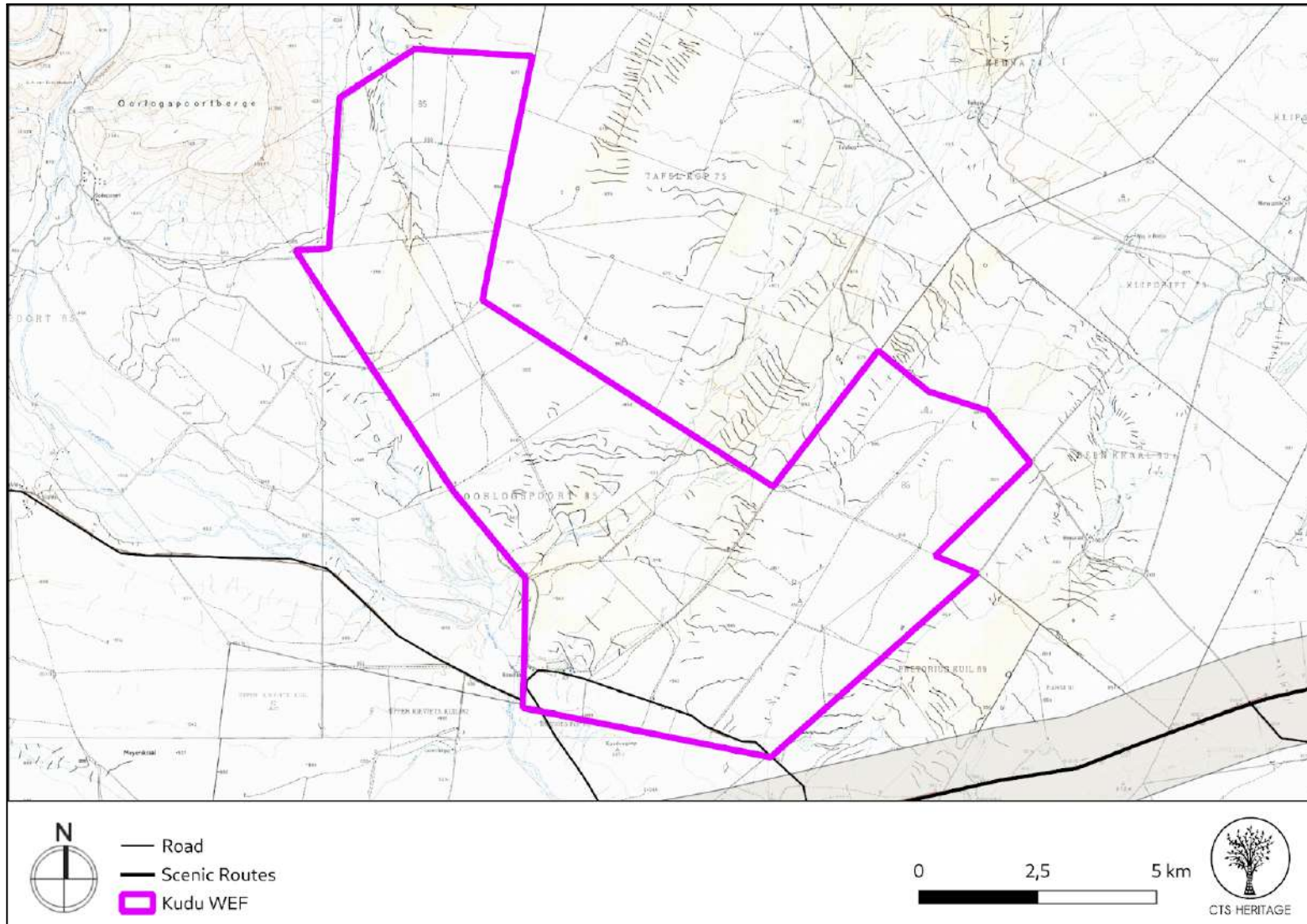


Figure 1.3: Proposed project boundary



CTS HERITAGE

2. METHODOLOGY

2.1 Purpose of Archaeological Study

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

2.2 Summary of steps followed

- An archaeologist (N. Wiltshire) conducted a survey of the site and its environs from 20 to 24 June 2023 to determine what archaeological resources are likely to be impacted by the proposed development.
- The area proposed for development was assessed on foot, photographs of the context and finds were taken, and tracks were recorded using a GPS.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.
- As a result of the findings of this, and other specialist reports, the layout has been amended to respond to identified sensitivities.

2.3 Constraints & Limitations

The ground was level with very few changes in elevation spread across the study area. No rock shelters or natural outcrops of dolerite boulders were found and the vegetation posed no challenges in terms of survey visibility as the ground was sparsely vegetated. This study was also one of many recently conducted in the area and it was therefore possible to augment observations made from overlapping projects.

The experience of the heritage practitioner, and observations made during the study, allow us to predict with some accuracy the archaeological sensitivity of the receiving environment.



CTS HERITAGE

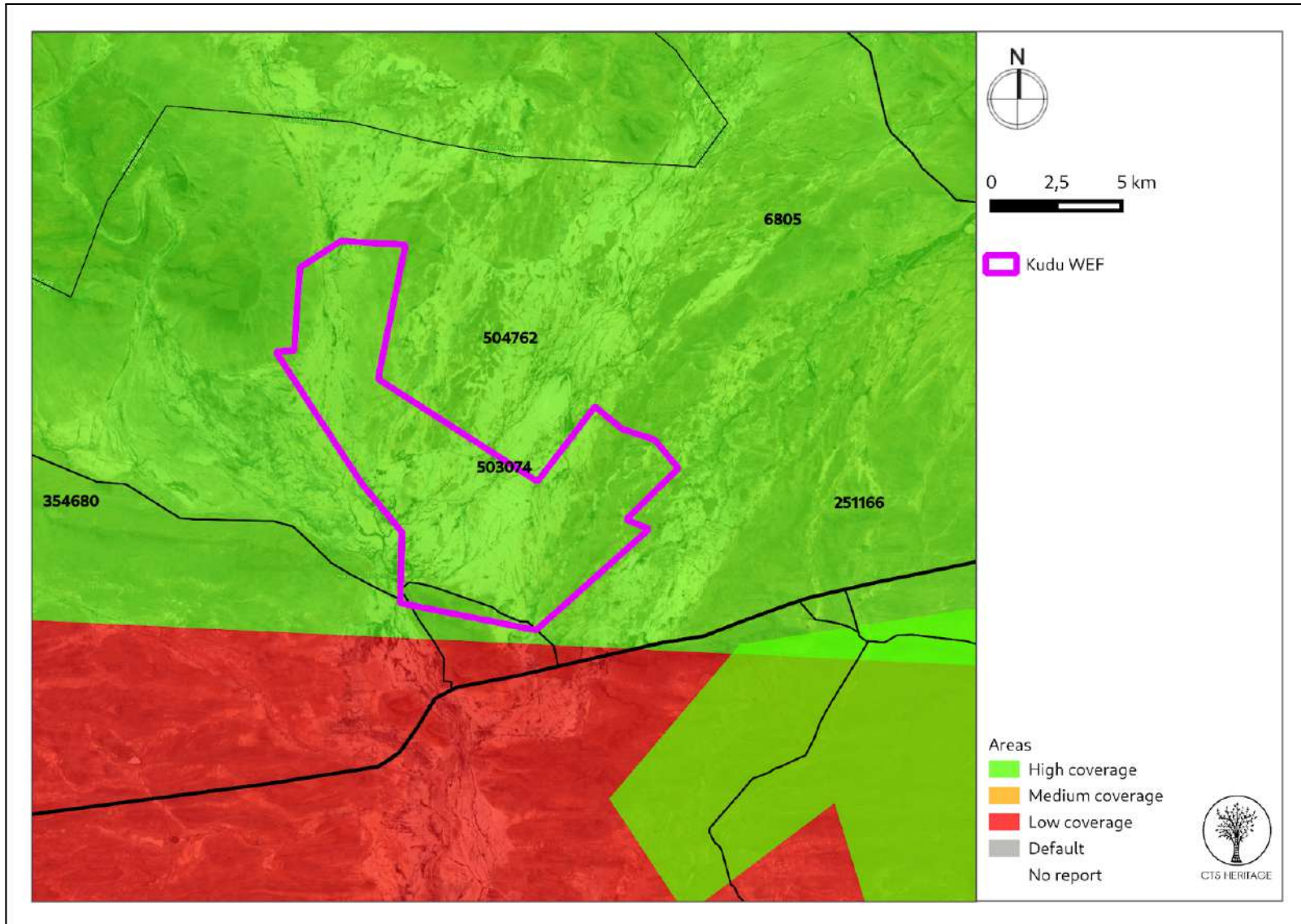


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted

CTS Heritage

@Bonne Esperance, 238 Queens Road, Seaforth, Simon's Town, 7975

Tel: +27 (0) 82 303 7870/ 083 619 0854 Email: info@ctsheritage.com Web: www.ctsheritage.com



CTS HERITAGE

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

Background:

The area proposed for the Kudu Wind Energy Facility Projects is located approximately 40km west of Aberdeen in the Eastern Cape, and is located within the identified Beaufort West REDZ (Figure 2b). With its numerous examples of Victorian architecture, it is one of the architectural conservation areas of the Karoo. The town is some 55 km south-west of Graaff-Reinet, 155 km east-south-east of Beaufort West and 32 km south of the Camdeboo Mountains. Laid out on the farm Brakkefontein as a settlement of the Dutch Reformed Church in 1856, it became a municipality in 1858. It is named after Aberdeen in Scotland, birthplace of the Reverend Andrew Murray of Graaff-Reinet, relieving minister. Aberdeen is filled with examples of Victorian architecture, and the Steeple of the Dutch Reformed Church, with its 50 metre Tower, is the highest in South Africa. There is a Local Authority Nature Reserve found here, as well as The Fonteinbos Nature Reserve which is both beautiful and functional, as its natural spring (Die Oog) supplies the entire town and its agricultural sector with its water.

Archaeology

Recently, a number of heritage assessments have been completed within close proximity to the area proposed for development (Figure 2a). According to Nilssen (2014, SAHRIS NID 504763), “The Karoo houses a long and rich archaeological record dating from the earliest stages of Stone Age technology that are over a million years old, to the historic period that consists of the last few hundred years of human occupation (see Nilssen 2011 and references therein). Archaeological sites include caves and rock shelters, open air artefact scatters, rock engravings and historic structures with their associated cultural materials.” According to the ACO (2013, SAHRIS NID 503074), “Because of the scarcity of caves and shelters, more than 90% of Karoo archaeological sites are open sites of stone artefacts, ostrich eggshell fragments and occasionally, pottery. Bone remains are rarely preserved. Artefacts of both the Early and Middle Stone Age are widespread and may generally be described as an ancient litter that occurs at a low frequency across the landscape. Where definable scatters of Early and Middle Stone Age material occur, they are considered to be significant heritage sites.

More intensive occupation of the Karoo started around 13 000 years ago during the Later Stone Age, which is essentially the heritage of Khoisan groups who lived throughout the region. The legacy of the San includes numerous open sites while traces of their presence can also be found in most large rock shelters, often in the form of rock art. They frequently settled a short distance from permanent water sources (springs or waterholes) and made use of natural shelters such as rock outcrops or large boulders or even large bushes. In the Great Karoo, natural elevated features such as dolerite dykes and ridges played a significant role in San settlement patterns” and as such, this broader area is renowned for its well-preserved rock art and other artefacts from this time, including rock engravings and rock gongs. It is likely that similar archaeological heritage exists within the areas proposed for development and as such, impact to these resources must be assessed.

A Heritage Impact Assessment was completed in 2013 for the proposed Aberdeen WEF located east of the area proposed for development (Booth and Sanker, SAHRIS NID 251161). The findings of this assessment therefore provide an



CTS HERITAGE

indication of the kinds of heritage resources likely to be present within this proposed development area. Booth and Sanker (2013) noted that “Surface scatters of predominantly Middle Stone Age stone artefacts were observed over most of the area proposed for the development, these included isolated as well as dense occurrences. Eight areas / sites have been identified that comprise relatively dense scatters of stone artefacts over large areas with several micro-sites within the demarcated sites. It was observed that denser distributions of stone artefacts occurred in the north and central areas of the study area, filtering out towards the south. No associated archaeological material or organic remains were documented with the stone artefact surface scatters. An historical stonewalling farmstead complex is situated adjacent to one of the proposed access roads. The complex comprised the remains of the house and two kraals. Packed stones were identified in the south-central area. The packed stone may resemble a kraal that has now collapsed. Fragments of glass and pottery were found within this area, as well as a No. 2 Musket Eley bullet casing associated with the Second Anglo-Boer War.”

In 2022 and 2023, CTS Heritage has completed Heritage Impact Assessments for the proposed Aberdeen WEF Cluster and the proposed Kariëga WEF Cluster. Both facilities border on the area proposed for the Kudu WEF. The findings of the assessments completed by CTS Heritage largely correlate with the findings of other assessments completed in the vicinity such as the findings of the Booth and Sanker (2013, SAHRIS NID 251161). The observations noted include high numbers of quarried stone artefacts predominantly from the Middle Stone Age and Later Stone Age period which is consistent with observations on neighbouring farms through impact assessments and research surveys. The majority of the lithic material identified was determined to be of low significance (not conservation-worthy), and the impact of the destruction of these resources was determined to be inconsequential. The findings of the completed assessments conclude that, despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low. All of the resources identified by Booth and Sanker (2013) as well as CTS Heritage (2022, 2023) have been mapped relative to the proposed development in Figure 3.



CTS HERITAGE

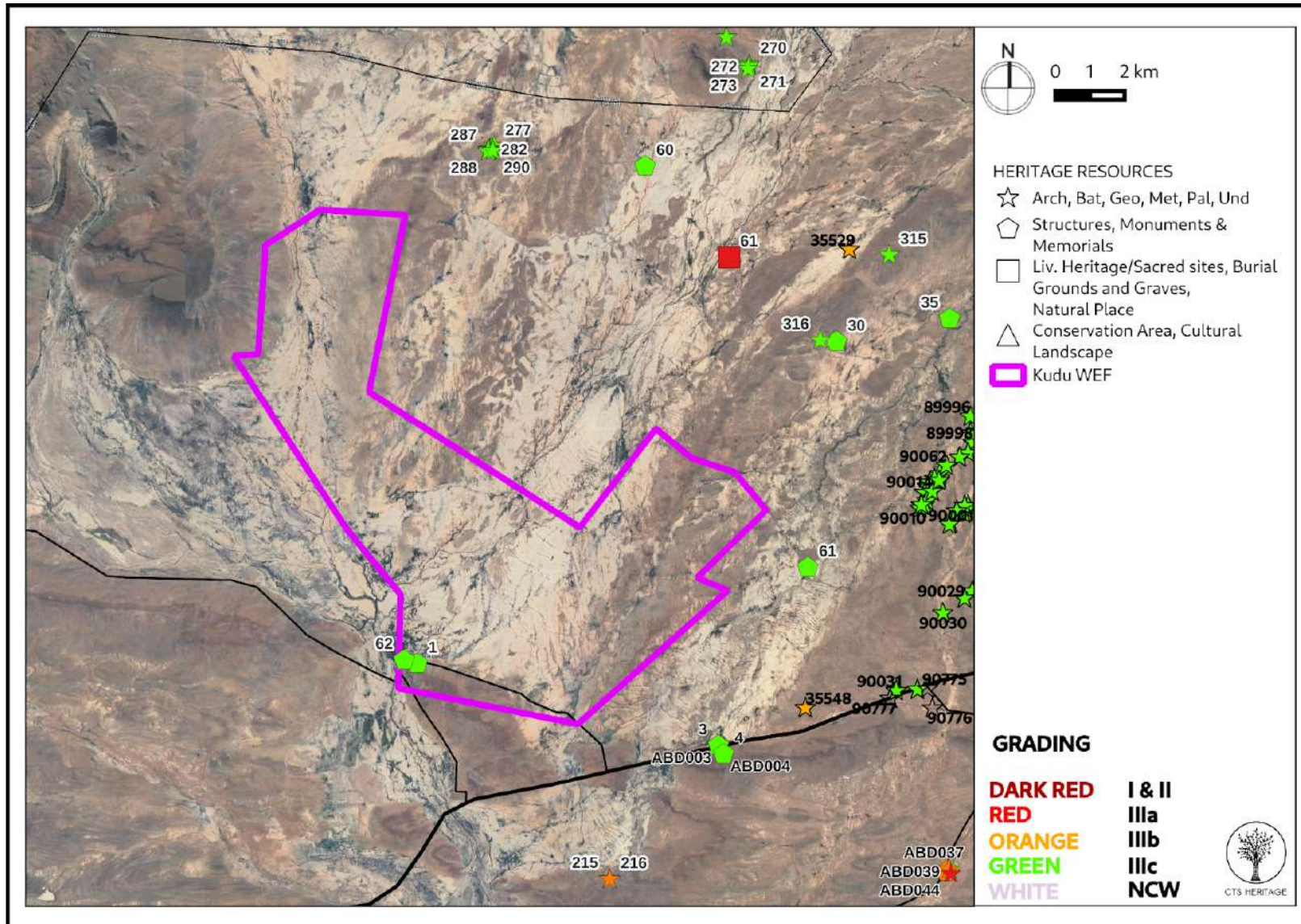


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated



CTS HERITAGE

4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Field Assessment

The historic to modern farming use of the landscape has contributed to the built environment pattern of settlement in the area with typical Karoo werfs, many now ruined, dotting the landscape. A number of farm dams have been made in the past by using earthmoving equipment to push up dirt banks along the watercourses. Nearly 60 additional observations were made of various archaeological sites falling within the Kudu WEF area. Two areas previously recorded during the Kariega WEF study identified ruins and built environment heritage located near the northeastern end of the Kudu WEF associated with a stock kraal settlement on the way to the Benekraal werf as well as the Rooidraai werf near the southern end of the development area noted earlier. No impacts on these built environment heritage resources are anticipated but are noted as part of the broader assessment of heritage resources in the region.

Given the lack of natural rock shelters on the landscape and absence of dolerite boulders favoured by rock engravers during the Later Stone Age, the vast majority of the observations consisted of open air scatters of Middle and Later Stone Age artefact scatters. The vast majority of the archaeological sites recorded consisted of Middle Stone Age open site scatters of tools made of hornfels and siltstone which are abundant and easily sourced within the local area. The Later Stone Age scatters tended to contain high quality hornfels that appeared to be introduced into the area and were far less patinated and weathered than the extensive MSA material. Artefacts were seen throughout the study site and areas within the floodplain of the Kariegarivier containing less visible surface material are likely to hold buried archaeological material. The modern dirt furrows and sand banks created in the 1950s have no doubt contributed substantially to the build up of sediment burying many of these scatters.



Figure 4.1: View of the Kudu WEF area with open grassland and shrubland. Looking north in the general direction of Murraysburg.



CTS HERITAGE



Figure 4.2: View of Oorlogspoortberge in the distance across the study site.



Figure 4.3: View of a deflated area typically containing MSA and LSA artefacts.



CTS HERITAGE



Figure 4.4: View looking eastwards towards the Kamdebooberge and the Sleeping Giant. Shrubland in foreground.



Figure 4.5: Looking west towards Oorlogspoort farm which lies in the foothills of the Oorlogspoortberge.



CTS HERITAGE



Figure 4.6: Contextual view moving up the northwest side of the development area, looking northeastwards.



Figure 4.7: View looking east across the flat valley and the floodplain of the Kariegarivier.



CTS HERITAGE



Figure 4.8: Approaching the slopes of the Oorlogspoortberge near the northwest corner of the Kudu WEF.



Figure 4.9: Acacia thorn trees and shrubland in the study area.



CTS HERITAGE



Figure 4.10: View of the level ground typically found throughout the study site looking southeast.



Figure 4.11: Patch of deeper grassland and bush near the access road from Oorlogspoort.



CTS HERITAGE



Figure 4.12: View of one of the access roads linking the proposed turbine layouts.



Figure 4.13: View within the Kariegarivier floodplain with denser stands of thorn trees.



CTS HERITAGE



Figure 4.14: View looking east out of the floodplain.



Figure 4.15: Another view of the floodplain looking towards the Sleeping Giant.



CTS HERITAGE



Figure 4.16: Looking north towards Tafelkop farm.



Figure 4.17: View looking west across the study site.

CTS Heritage

@Bonne Esperance, 238 Queens Road, Seaforth, Simon's Town, 7975

Tel: +27 (0) 82 303 7870/ 083 619 0854 Email: info@ctsheritage.com Web: www.ctsheritage.com



CTS HERITAGE

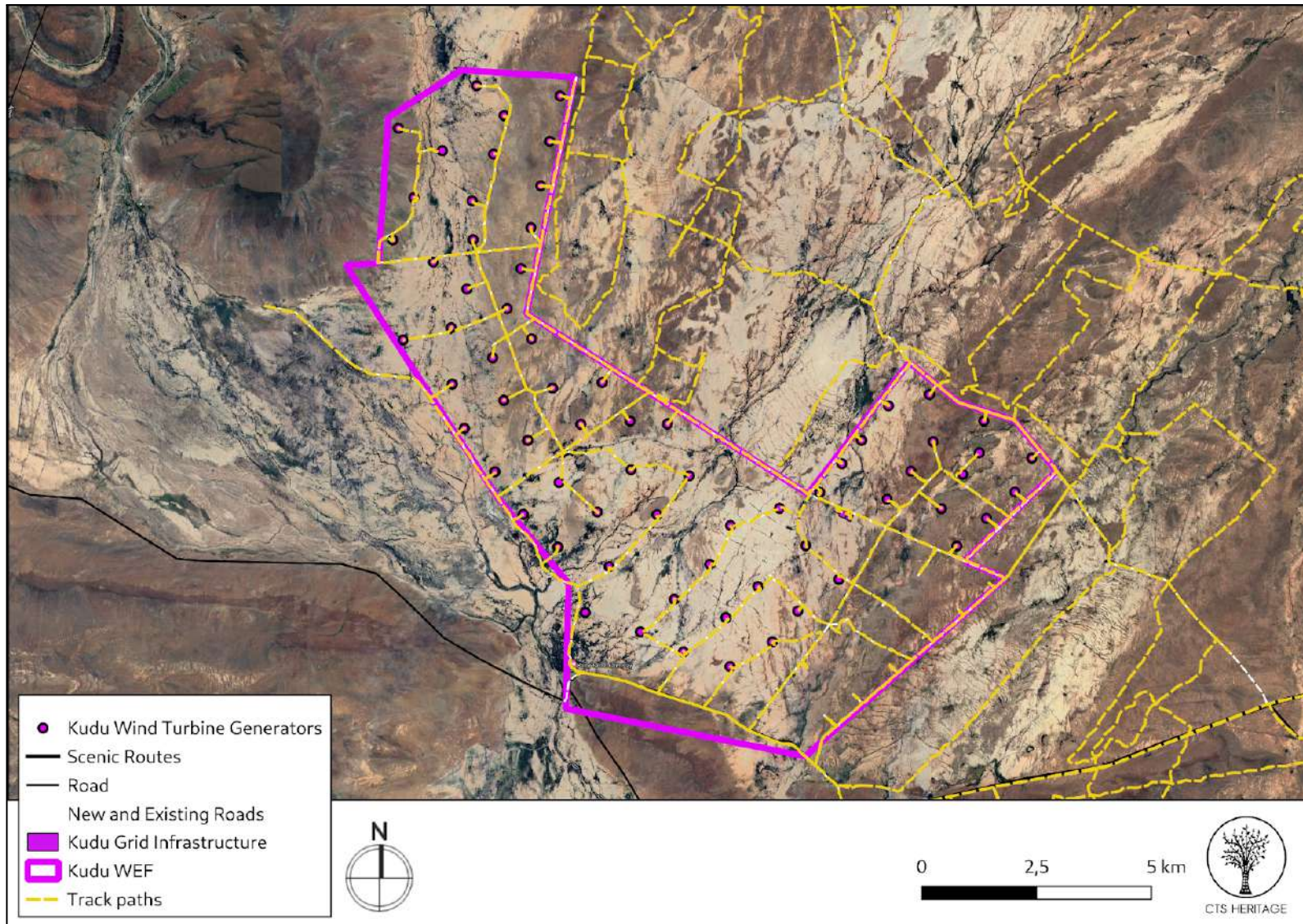


Figure 5: Overall track paths of foot survey

CTS Heritage

@Bonne Esperance, 238 Queens Road, Seaforth, Simon's Town, 7975

Tel: +27 (0) 82 303 7870/ 083 619 0854 Email: info@ctsheritage.com Web: www.ctsheritage.com



4.2 Archaeological Resources identified

Table 1: Observations noted during the field assessment

POINT	Description	Type	Period	Density/ m ²	Co-ordinates		Grading	Mitigation
001	Hornfels cores and flakes	Artefacts	MSA	5 to 10	-32.4973731	23.60620067	NCW	NA
002	Siltstone and hornfels flakes	Artefacts	MSA	0 to 5	-32.48259509	23.6182701	NCW	NA
003	Siltstone and hornfels flakes, some retouched	Artefacts	MSA	10 to 30	-32.47868583	23.60638357	NCW	NA
004	Blades, cores, unworked siltstone and hornfels	Artefacts	MSA	5 to 10	-32.49069944	23.59424489	NCW	NA
005	Siltstone flakes	Artefacts	MSA	0 to 5	-32.49230204	23.59300921	NCW	NA
006	Prominent b. of percussion, hornfels and siltstone flakes	Artefacts	MSA	5 to 10	-32.4892414	23.58145172	NCW	NA
007	Hornfels flakes, cortex still present on dorsal	Artefacts	MSA	0 to 5	-32.48386562	23.58928294	NCW	NA
008	Core, hornfels	Artefacts	LSA	0 to 5	-32.47252023	23.59741525	NCW	NA
009	Siltstone core and flake debitage	Artefacts	MSA	0 to 5	-32.47245288	23.58742464	NCW	NA
010	Hammerstone, flakes, quartzite, hornfels	Artefacts	LSA+ MSA	5 to 10	-32.47608081	23.58389106	NCW	NA
011	Very patinated hornfels flake	Artefacts	MSA	0 to 5	-32.4800535	23.57838173	NCW	NA
012	Hornfels retouched flake and core	Artefacts	MSA	0 to 5	-32.48332755	23.56941133	NCW	NA
013	Siltstone blanks and flakes	Artefacts	MSA	10 to 30	-32.47664134	23.56655175	NCW	NA
014	Fine grained hornfels core	Artefacts	LSA	0 to 5	-32.4718952	23.5723004	NCW	NA
015	Patinated hornfels flake	Artefacts	MSA	0 to 5	-32.46763028	23.5777389	NCW	NA
016	Siltstone blade flake	Artefacts	MSA	0 to 5	-32.45808396	23.58775227	NCW	NA
017	Radial core, patinated and chalky hornfels flake	Artefacts	MSA	0 to 5	-32.4561975	23.59839199	NCW	NA
018	Siltstone flakes	Artefacts	MSA	0 to 5	-32.4561253	23.60730248	NCW	NA
019	Large bulb of perc. Siltstone flake	Artefacts	MSA	0 to 5	-32.46656061	23.62798358	NCW	NA
020	Patinated core, hornfels	Artefacts	MSA	0 to 5	-32.46738434	23.64131195	NCW	NA
021	Hornfels flakes	Artefacts	MSA	5 to 10	-32.46014263	23.64379823	NCW	NA
022	Retouched and thin hornfels flake	Artefacts	MSA	0 to 5	-32.4505763	23.65545122	NCW	NA
023	Hornfels core	Artefacts	LSA	0 to 5	-32.44467881	23.65406095	NCW	NA
024	Siltstone flakes, unworked	Artefacts	MSA	0 to 5	-32.44726134	23.63696157	NCW	NA
025	Siltstone radial core	Artefacts	MSA	0 to 5	-32.4467812	23.63087616	NCW	NA
026	Very patinated hornfels flake, core	Artefacts	MSA	0 to 5	-32.45399698	23.62900425	NCW	NA
027	Blade, siltstone	Artefacts	MSA	0 to 5	-32.44630937	23.60783277	NCW	NA
028	Siltstone core, with cortex mostly intact	Artefacts	LSA	0 to 5	-32.42951574	23.62200324	NCW	NA
029	Unworked siltstone flakes	Artefacts	MSA	5 to 10	-32.46801582	23.55402389	NCW	NA
030	Hornfels and siltstone flakes and points	Artefacts	MSA	10 to 30	-32.46428109	23.55891515	NCW	NA
031	Weathered hornfels blade	Artefacts	MSA	0 to 5	-32.4541816	23.56891972	NCW	NA
032	Siltstone core	Artefacts	MSA	0 to 5	-32.44763738	23.56851451	NCW	NA
033	Siltstone and hornfels flakes	Artefacts	LSA+ MSA	10 to 30	-32.44752329	23.55874541	NCW	NA
034	Hornfels microliths	Artefacts	LSA	0 to 5	-32.45048573	23.54433438	NCW	NA



CTS HERITAGE

035	Very weathered hornfels flakes	Artefacts	MSA	0 to 5	-32.45475248	23.5500771	NCW	NA
036	Siltstone and hornfels flakes, core	Artefacts	MSA	5 to 10	-32.44936081	23.52677009	NCW	NA
037	Cores and flakes, hornfels	Artefacts	LSA+ MSA	5 to 10	-32.43242321	23.51626049	NCW	NA
038	Hornfels flakes, point	Artefacts	MSA	0 to 5	-32.44007756	23.53997027	NCW	NA
039	Blade flake, hornfels	Artefacts	MSA	0 to 5	-32.43271495	23.53842063	NCW	NA
040	Point, thin and retouched, cores	Artefacts	MSA	5 to 10	-32.42278406	23.53119406	NCW	NA
041	Demineralised hornfels blade flake	Artefacts	MSA	0 to 5	-32.42098093	23.54171943	NCW	NA
042	Hornfels chunks and microliths	Artefacts	LSA	5 to 10	-32.43357465	23.56258112	NCW	NA
043	Core, siltstone	Artefacts	MSA	0 to 5	-32.43906435	23.55332927	NCW	NA
044	Hornfels flakes	Artefacts	MSA	5 to 10	-32.40979354	23.53733575	NCW	NA
045	Siltstone core	Artefacts	MSA	0 to 5	-32.3971523	23.54020409	NCW	NA
046	Hornfels core and flakes	Artefacts	LSA	5 to 10	-32.37499832	23.54434053	NCW	NA
047	Patinated hornfels and siltstone flakes, cores	Artefacts	MSA	10 to 30	-32.40536056	23.52513929	NCW	NA
048	Siltstone core with flake scars on distal end	Artefacts	MSA	0 to 5	-32.40647262	23.5153191	NCW	NA
049	Blade, hornfels	Artefacts	MSA	0 to 5	-32.39638774	23.50913149	NCW	NA
050	Retouched blade flake, hornfels, siltstone flakes	Artefacts	MSA	5 to 10	-32.38577036	23.51218549	NCW	NA
051	Pointed hornfels flake and core	Artefacts	MSA	0 to 5	-32.39365013	23.52704279	NCW	NA
052	Blades (hornfels), longer siltstone flakes	Artefacts	MSA	5 to 10	-32.38596606	23.52901364	NCW	NA
053	Cores and flakes, hornfels	Artefacts	MSA	0 to 5	-32.37383895	23.52936453	NCW	NA
054	Very weathered hornfels point	Artefacts	MSA	0 to 5	-32.41230705	23.52321146	NCW	NA
055	Hornfels flake with prominent previous flake scars on dorsal	Artefacts	MSA	0 to 5	-32.41913244	23.52382761	NCW	NA
056	Hornfels core with several scars	Artefacts	MSA	5 to 10	-32.42119779	23.51600949	NCW	NA
057	Blade flake, hornfels	Artefacts	MSA	0 to 5	-32.42224095	23.50954707	NCW	NA
058	Very patinated hornfels flakes, cores	Artefacts	MSA	5 to 10	-32.42089976	23.48652621	NCW	NA



CTS HERITAGE

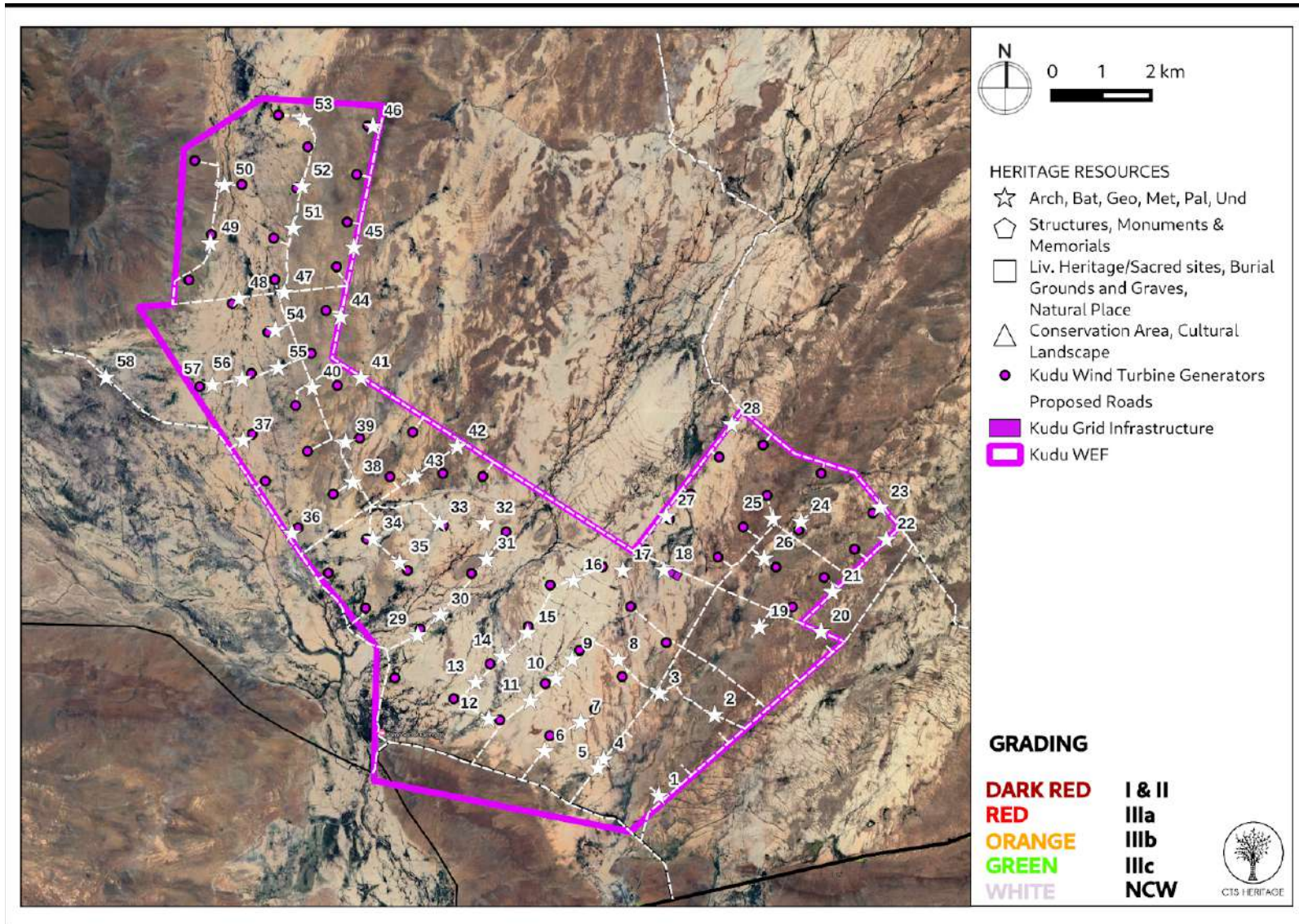


Figure 6: Map of all sites and observations noted within the development area

CTS Heritage

@Bonne Esperance, 238 Queens Road, Seaforth, Simon's Town, 7975

Tel: +27 (0) 82 303 7870/ 083 619 0854 Email: info@ctsheritage.com Web: www.ctsheritage.com



4.3 Selected photographic record

(a full photographic record is available upon request)



Figure 6.1: Observation 001 and 002



Figure 6.2: Observation 003 and 004

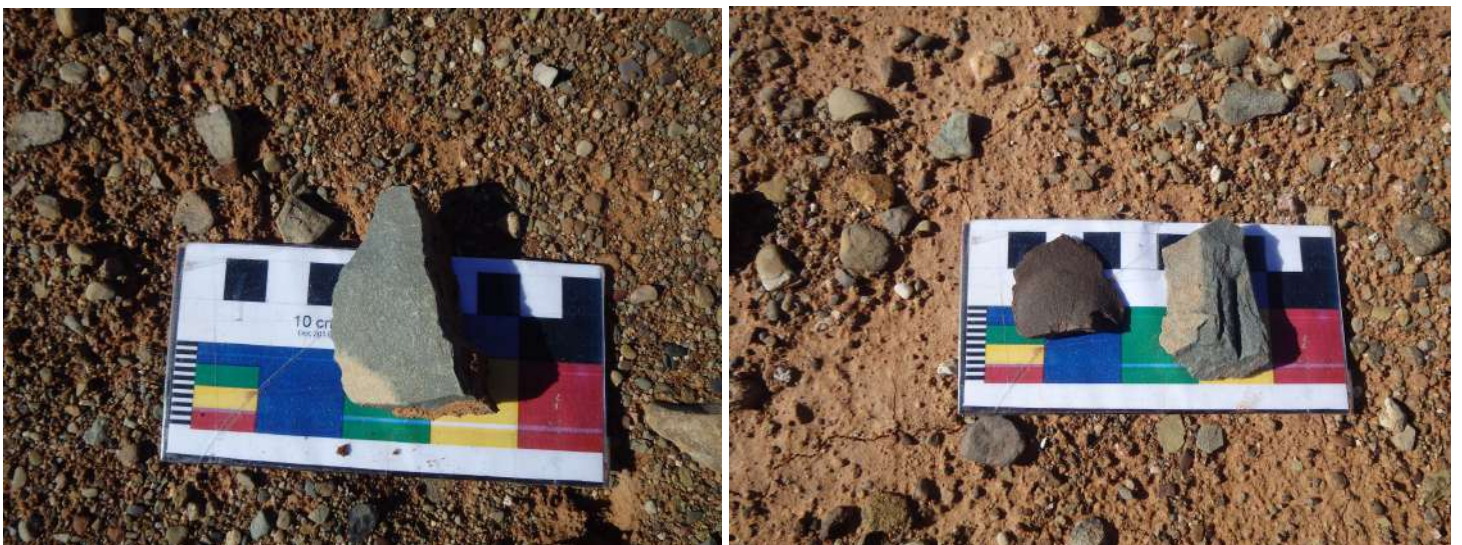


Figure 6.3: Observation 005 and 006



Figure 6.4: Observation 007 and 008



Figure 6.5: Observation 009 and 010



Figure 6.6: Observation 011 and 012

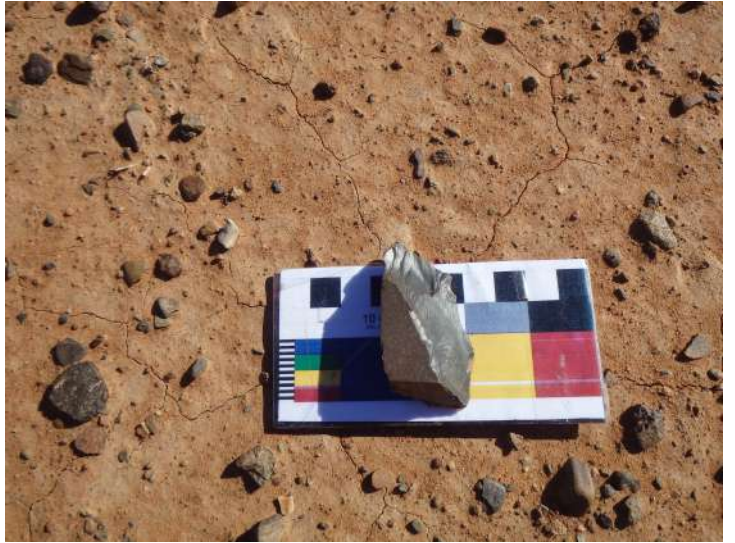


Figure 6.7: Observation 013 and 014



Figure 6.8: Observation 015 and 016



Figure 6.9: Observation 017 and 018



CTS HERITAGE



Figure 6.10: Observation 019 and 020



Figure 6.11: Observation 021 and 022



Figure 6.12: Observation 023 and 024

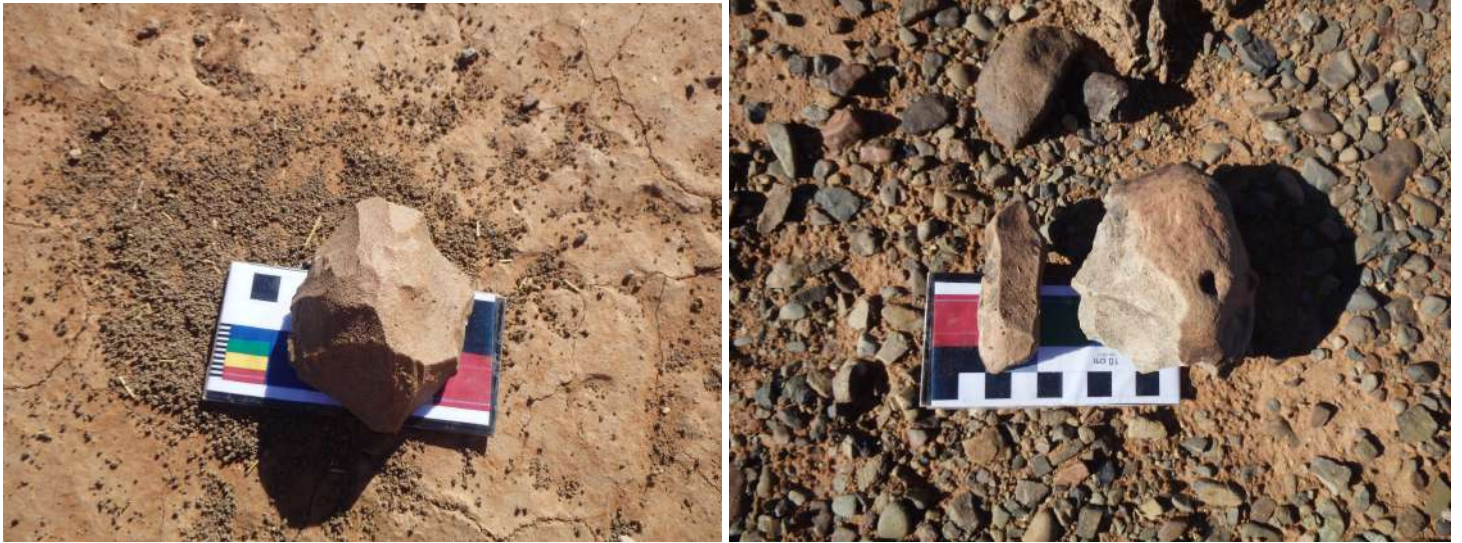


Figure 6.13: Observation 025 and 026



Figure 6.14: Observation 027 and 028



Figure 6.15: Observation 029 and 030



Figure 6.16: Observation 031 and 032



Figure 6.17: Observation 033 and 034



Figure 6.18: Observation 035 and 036



Figure 6.19: Observation 037 and 038

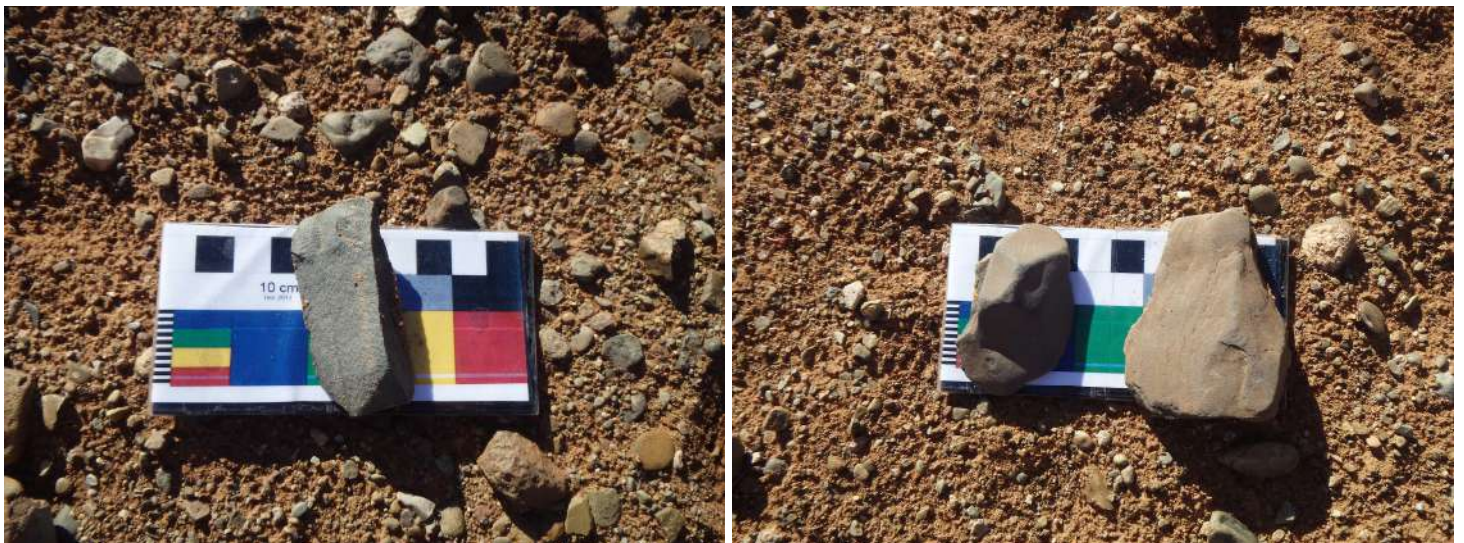


Figure 6.20: Observation 039 and 040



Figure 6.21: Observation 041 and 042



Figure 6.22: Observation 043 and 044



Figure 6.23: Observation 045 and 046



Figure 6.24: Observation 047 and 048



Figure 6.25: Observation 049 and 050



Figure 6.26: Observation 051 and 052



Figure 6.27: Observation 053 and 054



Figure 6.28: Observation 055 and 056



Figure 6.29: Observation 057 and 058



CTS HERITAGE

5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

The proposed development will not have a substantial negative impact on most of the archaeological resources identified within the proposed development area for the renewable energy facilities. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.



CTS HERITAGE

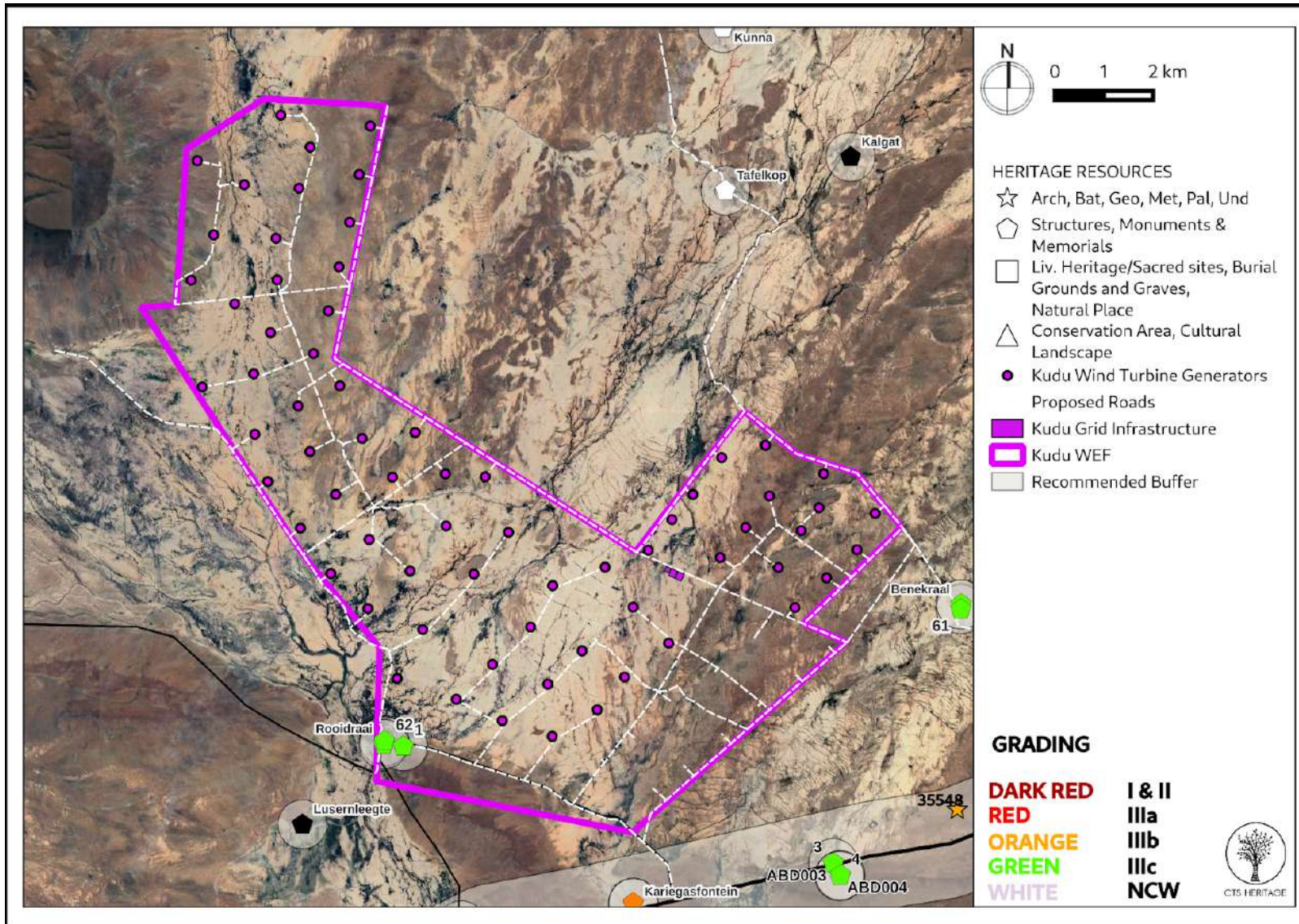


Figure 8: Map of all significant heritage resources noted within the development area



CTS HERITAGE

6. CONCLUSION AND RECOMMENDATIONS

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the Booth and Sanker (2013, SAHRIS NID 251161), and CTS Heritage (2021). It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age and Later Stone Age period were found within the development area which is consistent with observations on neighbouring farms through impact assessments and research surveys. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is inconsequential. No mitigation is required for archaeological material recorded in the footprint areas of the proposed development.

Despite the high number of observations of artefacts, these resources are common and representative of similar scatters across widespread areas of the Karoo. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

All of the other significant resources identified are either historic kraals, occupied farm werfs or the ruins of historic farm werfs. While no direct impact to any of these sites is anticipated in the layout provided, it is recommended that a no-development buffer of 500m is implemented around these sites.

Recommendations

Based on the outcomes of this report, it is not anticipated that the proposed development of the wind energy facilities will negatively impact on significant archaeological heritage on condition that:

- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. 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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and ECPHRA must be alerted immediately to determine an appropriate way forward.



7. REFERENCES

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
251161	AIA Phase 1	Celeste Booth, Sholeen Shanker	25/03/2013	A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED 200MW ESKOM WIND ENERGY FACILITY, NEAR ABERDEEN, CAMDEBOO LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.
251166	Palaeontological Specialist Reports	John E Almond	31/12/2014	PALAEONTOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED ABERDEEN 200 MW WIND FARM, CAMDEBOO LOCAL MUNICIPALITY, EASTERN CAPE.
354680	HIA Phase 1	Lita Webley, David Halkett	30/11/2015	Heritage Impact Assessment: Proposed Uranium Mining and Associated infrastructure on portions of the farm Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354681	AIA Phase 1	Lita Webley	30/11/2015	Archaeological Impact Assessment: Proposed uranium mining and associated infrastructure on portions of the farms Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354683	PIA Phase 1	Bruce Rubidge	24/04/2008	Palaeontological study of the Rystkuil channel
6805	AIA Phase 1	Len van Schalkwyk, Elizabeth Wahl	01/09/2007	Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa
7852	AIA Phase 1	J Kinahan	03/10/2008	Archaeological Baseline Survey of the Proposed Ryst Kuil Uranium Project

Lavin, Winter, Almond (2022). Heritage Impact Assessment for the proposed development of the Poortjie Cluster of Renewable Energy Facilities near Nelspoort, Western Cape. Section 38(8) HIA submitted to HWC. Unpublished.

Lavin, Winter, Almond (2022). Heritage Impact Assessment for the proposed development of the Aberdeen WEF Cluster near Aberdeen, Eastern Cape. Section 38(8) HIA submitted to ECPHRA. Unpublished.

Lavin, Winter, Almond (2023). Heritage Impact Assessment for the proposed development of the Kariega WEF Cluster near Aberdeen, Eastern Cape. Section 38(8) HIA to be submitted to ECPHRA. Unpublished.