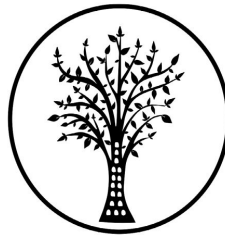


# ARCHAEOLOGICAL SPECIALIST STUDY

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

## PROPOSED DEVELOPMENT OF KOTULO TSATSI ENERGY PV 1, PV3 AND PV4 NEAR KENHARDT, NORTHERN CAPE

Prepared by



CTS HERITAGE

In Association with

**Savannah Environmental**

JANUARY 2021



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## THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I Jenna Lavin, as the appointed independent specialists hereby declare that we:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at our disposal regarding the application, whether such information is favourable to the applicant or not; and
- are aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Jenna Lavin

**Signature of the specialist**

CTS Heritage

**Name of company**

January 2021

**Date**



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## EXECUTIVE SUMMARY

The Applicant, Kotulo Tsatsi Energy (Pty) Ltd, is proposing the construction of three photovoltaic (PV) solar energy facilities (known as the Kotulo Tsatsi Energy PV1, PV3 and PV4) located on a site located approximately 70km southwest of the town of Kenhardt and 60km north of Brandvlei in the Northern Cape Province. The solar energy facilities will comprise several arrays of PV panels and associated infrastructure and will have a contracted capacity of up to 200MW. The facilities will be located within Portions 2 and 3 of Farm Styns Vley 280, and Portion 2 of Farm Kopjes Vley 281. The PV facilities are planned to be located adjacent to the authorised 100MW Kotulo Tsatsi PV2 facility, and within an area previously authorised for CSP project infrastructure.

The area proposed for the development of the Kotulo Tsatsi PV facilities and associated infrastructure has yielded some cultural remains but with varied value and preservation. The isolated and scattered lithic artefacts are typical of a deflated landscape and have very limited cultural value given that they have been accumulated and modified by various natural processes to their current *ex situ* state. None of the archaeological resources identified in this field assessment are considered worthy of conservation.

These findings correlate with the findings of Van der Walt (2014, 2015 and 2017) from the same area and it is agreed that, as per his findings; “In the study area there were only a few areas where surface material was noted. Artefact density is so low that they do not represent individual sites but rather background scatter or find spots. All observations are on the surface and there are no indicators that would suggest deeply stratified material anywhere in the study area. No associated organic remains (such as bone or ostrich eggshell) were noted with any of the stone scatters. Most of the material observed can probably be ascribed to the Middle Stone Age although some can be ascribed to the LSA and are smaller in size (< 5 cm in length). Miscellaneous Flakes, blades and chunks make up the majority of the scatters, and retouch was present on some items”. In our study the predominant raw material was hornfels instead of grey/white quartzite and this was potentially due to the additional time we had to spend on the properties taking the previous findings into account before the new study was completed. This does not, however, materially change the overall assessment made by Van der Walt (2014) as quartzite artefacts are widely found in the area.

No engraved rock art was identified in this assessment, nor was it identified by Van der Walt (2015 and 2017) despite the proximity of the study area to known rock art sites. Furthermore, the dolerite outcrops evident in the geology map located to the east of the study area do not form hills or koppies and are therefore unlikely to have been used in rain-making activities. As such, it is unlikely that the proposed development of the Kotulo Tsatsi PV1, PV3 and PV4 solar energy facilities will negatively impact any significant archaeological heritage resources.

There is no objection to the proposed development and its associated infrastructure on condition that:

- Should any previously unrecorded archaeological resources or possible burials be identified during the course of construction activities, work must cease in the immediate vicinity of the find, and SAHRA must be contacted regarding an appropriate way forward.



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## **1. INTRODUCTION**

### **1.1 Background Information on Project**

The Applicant, Kotulo Tsatsi Energy (Pty) Ltd, is proposing the construction of three photovoltaic (PV) solar energy facilities (known as the Kotulo Tsatsi Energy PV1, PV3 and PV4) located on a site located approximately 70km southwest of the town of Kenhardt and 60km north of Brandvlei in the Northern Cape Province. The solar energy facilities will comprise several arrays of PV panels and associated infrastructure and will have a contracted capacity of up to 200MW. The facilities will be located within Portions 2 and 3 of Farm Styns Vley 280, and Portion 2 of Farm Kopjes Vley 281. The PV facilities are planned to be located adjacent to the authorised 100MW Kotulo Tsatsi PV2 facility, and within an area previously authorised for CSP project infrastructure. The project site falls under the Hantam Local Municipality which is part of Namakwa District Municipality.

The site is accessible via an existing gravel farm road (known as Soafskolk Road) which provides access to the farm off of the R27 which is located east of the project site. The PV infrastructure assessed in this application is in response to the Applicant's need to change the authorised generation technology for the facilities. That is, a technology change from the previously authorised CSP project infrastructure to PV project infrastructure. In this regard, the solar PV facilities will be connected to the grid via a previously authorised grid connection solution, which consists of a collector substation, switching station and a power line to the Eskom Aries Substation located northeast of the project site.

Kotulo Tsatsi Energy PV1, PV3 and PV4 are planned to be bid into the Department of Mineral Resources and Energy's (DMRE) Renewable Energy Independent Power Producer Procurement (REIPPP) Programme with the aim of evacuating the generated power into the national grid. This will aid in the diversification and stabilisation of the country's electricity supply.

### **1.2 Description of Property and Affected Environment**

Portion 2 of Kopjes Vley 281 and Portions 2 and 3 of Styns Vley 280 lie roughly in a contiguous stretch northwest to southeast. The areas surveyed for the proposed PV facilities are all south of the gravel road that links these farms back to the R27 main road in the east. There is very little change in topography in this landscape as the ground is nearly completely flat, dotted with dry vleis and streams that only run shortly after heavy rainfall. A number of windmills and associated concrete dams have been constructed in the past to provide water for grazing animals such as the Dorper sheep farmed in this area. Bushmanland Basin Shrubland dominates this area and a series of naturally occurring shale bands were found exposed at ground level with a small, limited and confined area of dolerite boulders near the main Styns Vley farmhouse complex.

An existing northeast-southwest 765kV powerline route bisects the area surveyed and lies on the Styns Vley property. Besides internal and external farm fences navigating around the properties was facilitated by a series of farm tracks and the level terrain made it possible to walk an extensive amount of the area to obtain very high coverage of the archaeological and other heritage resources found on the property.



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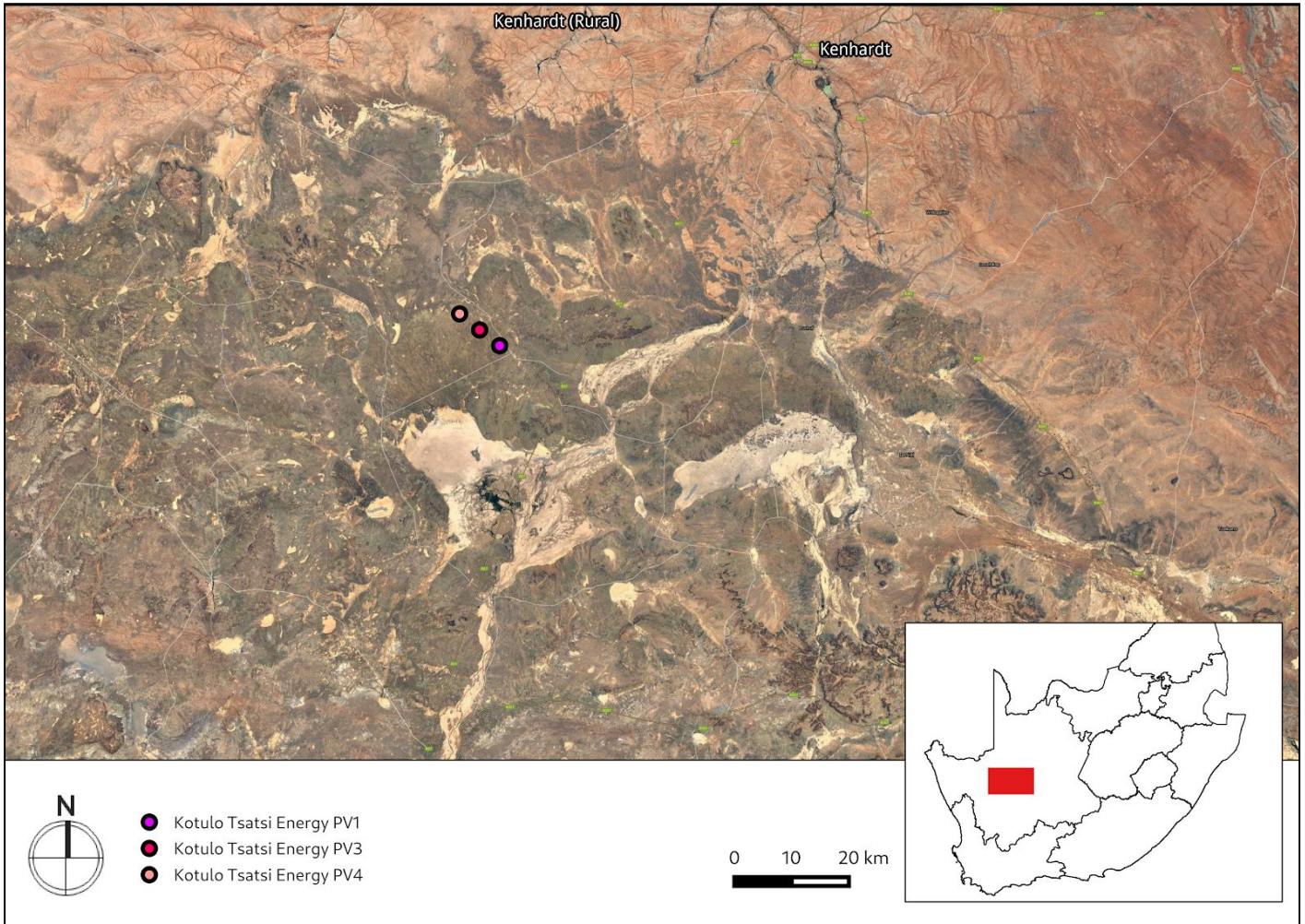


Figure 1.1: Close up satellite image indicating proposed location of development





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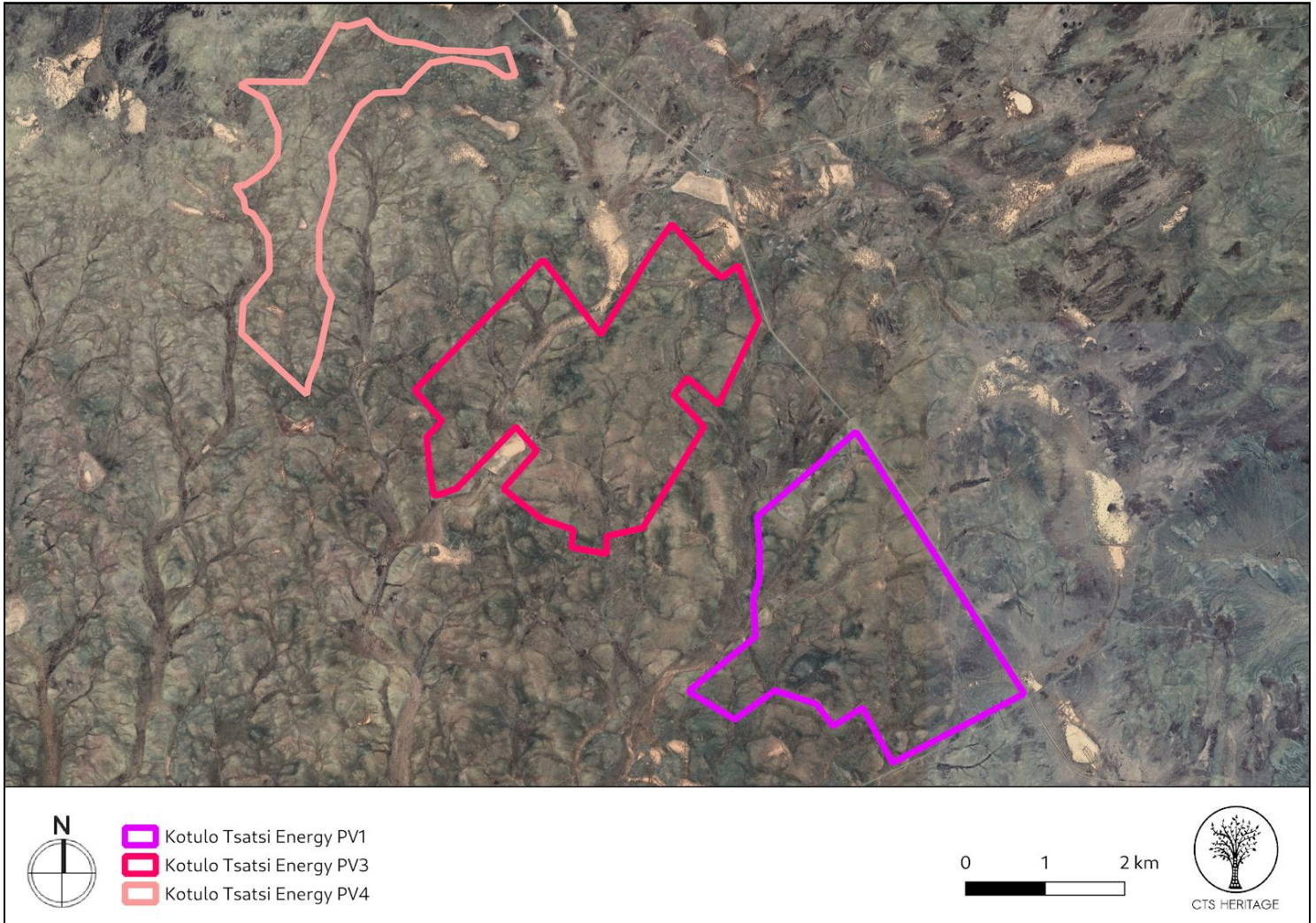


Figure 1.2: Area proposed for development

## 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 conducted a survey of the site and its environs on 5 and 6 January 2021 to determine what archaeological resources are likely to be impacted by the proposed development.
- The area proposed for development was assessed on foot in transects, 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.

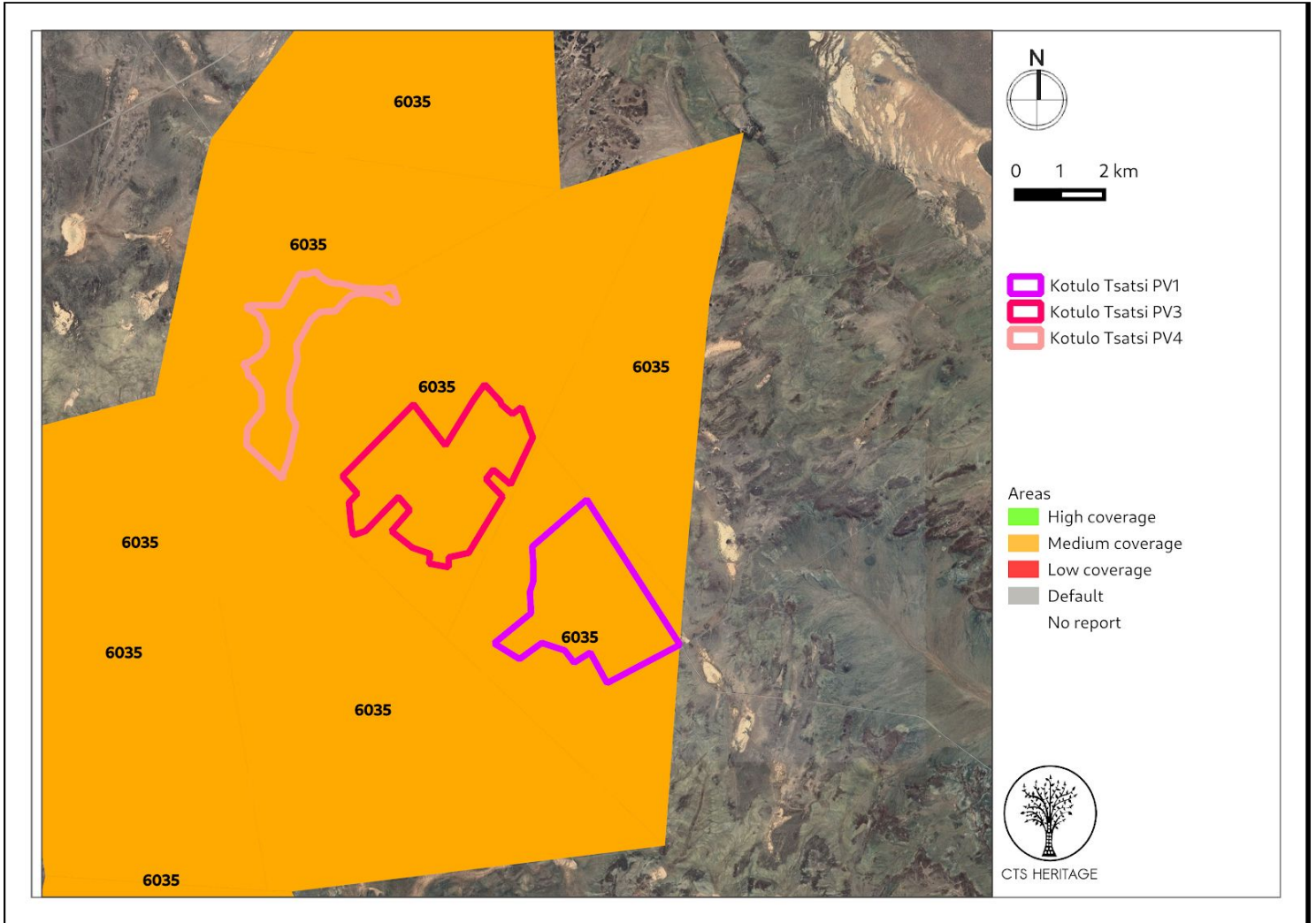


Figure 2: Close up satellite image indicating proposed location of the Rondavel SEF in relation to heritage studies previously conducted

### 2.3 Constraints & Limitations

The generally sparse vegetation cover did not impede the survey over the majority of the landscape and systematic and comprehensive coverage of the ground was obtained. The level ground greatly assisted in making it possible to reach the different parts of the properties without too much trouble and a previous survey by Jaco van der Walt on the same properties also provided a baseline describing the kinds of heritage resources expected here. The specialist is confident that this approach sampled adequately the variety of landscapes on this property and that the report presented is representative of the majority of preserved cultural remains.

### 3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

The area proposed for development is located approximately halfway between Kenhardt and Brandvlei in the Northern Cape. In 2015, a process was followed to secure authorisation for the proposed development of a concentrated solar plant and associated infrastructure with a generating capacity of up to 200MW to be located on the farm Styns Vley 280. As part of this previous process, various archaeological specialist assessments (Van der Walt, 2014, SAHRIS NID 169885, 6035) and palaeontological specialist assessments (Almond, 2015, SAHRIS NID 340296), each with fieldwork



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components, were completed. The location of the proposed development of the Kotulo Tstatsi PV 1, PV3 and PV4 assessed in this report overlaps with the area assessed previously (Figure 2). As such, the reports previously drafted by Van der Walt and Almond are referred to below in order to inform the desktop screening component of the report.

### **Cultural Landscape**

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 Gariiep River. In 1868, colonial forces were sent to deal with the conflicts arising with the Korana. The colonial forces set up camp beneath a camelthorn tree and with time the town of Kenhardt developed from under this tree, becoming a municipality in 1909. 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. Kenhardt has for a long time been one of the most remote settlements in the Northern Cape.

The area between Kenhardt and Brandvlei has previously been described as “a huge landscape of nothingness”, however this is misleading as this area was occupied for thousands of years by the Korana and their ancestors. Evidence of this is available in the distribution of stone age artefacts across the landscape, the rock engravings located on dolerite boulders that occur throughout the region between Kenhardt, Brandvlei and Vanwyksvlei, as well as in the accounts of Khoes and San culture available from the interviews by Bleek and Lloyd with /Xam informants from the Kenhardt district (Deacon, 1997; Beaumont and Vogel, 1989; Skinner, 2017). Deacon (1997) notes that “the symbolism (of the /Xam) tends to be earth-bound in linking people to the land through ritual. The importance of the landscape can also be seen in the personification of geographical features through myths and legends that explain their form. As I have suggested elsewhere, rock art enhanced this symbolic linkage by marking those landscape features that were used in rituals over many generations”.

According to Deacon (1997), “The landscape of the Upper Karoo where the /Xam lived appears to the stranger to be flat, and indeed the /Xam who lived between Kenhardt and Vanwyksvlei called themselves the “Flat Bushmen”. To find one’s way it is often necessary to climb a vantage point and such points are offered by dolerite dykes that snake across the plains.” Such a dolerite outcrop is located in the eastern section of the proposed development area (Figure 4b). According to Deacon (1997), these dolerite outcrops may have provided protection from the wind and scatters of artefacts can be found there confirming that people made use of them. Furthermore, Deacon (1997) posits that these dolerite hills were strongly culturally linked to rain-making activities, and may have played a role in men’s initiation.

### **Archaeology and the Built Environment**

Many farm portions in the immediate vicinity of the area proposed for development have been assessed in terms of impacts to heritage resources (Figure 2). 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. Van der Walt completed two field assessments immediately adjacent to the proposed development area (2015, SAHRIS NID 6035 and 2017, SAHRIS NID 397221). While Van der Walt (2015) had anticipated that quantities of Early, Middle and Later Stone Age artefacts would be present within the area surveyed, he noted a marked paucity of sites resulting from systematic field survey. He





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noted that “In fact no Stone Age sites (knapping, quarry or habitation site) were recorded. Stone Age Material was restricted to isolated widely dispersed low density scatters (less than 2 artefacts per m<sup>2</sup>)”.

With regard to the farm Steyns Vley 280, Van der Walt (2017) notes “In the study area there were only a few areas where surface material was noted. Artefact density is so low that they do not represent individual sites but rather background scatter or find spots. All observations are on the surface and there are no indicators that would suggest deeply stratified material anywhere in the study area. No associated organic remains (such as bone or ostrich eggshell) were noted with any of the stone scatters. Most of the material observed can probably be ascribed to the Middle Stone Age although some can be ascribed to the LSA and are smaller in size (< 5 cm in length). Miscellaneous Flakes, blades and chunks make up the majority of the scatters, and retouch was present on some items. The most predominant raw material was grey/white quartzite, although hornfels, banded ironstone and quartz were also recorded.” He further indicates that widely distributed stone artefacts were noted across the farm Steyns Vley 280.

Van der Walt (2015) identified a site known as “Site 3” located on the farm Steyn’s Vley 280. This site consists of a farm house and associated outbuildings as well as a grave/memorial dated to 2010. This site was determined to have little to no heritage significance. Van der walt (2015) and (2017) makes no recommendations in terms of mitigating impacts to any of the resources identified. As such, while the presence of low density scatters of Stone Age, likely Middle Stone Age, artefacts across the study area is almost guaranteed, these observations are of low heritage significance and are unlikely to warrant mitigation interventions.

However, based on the proximity of the proposed development area to a dolerite outcrop, and the likelihood of impacts to significant engraved rock art as well as other elements of the cultural landscape, it was recommended that a further specialist archaeological assessment be undertaken.



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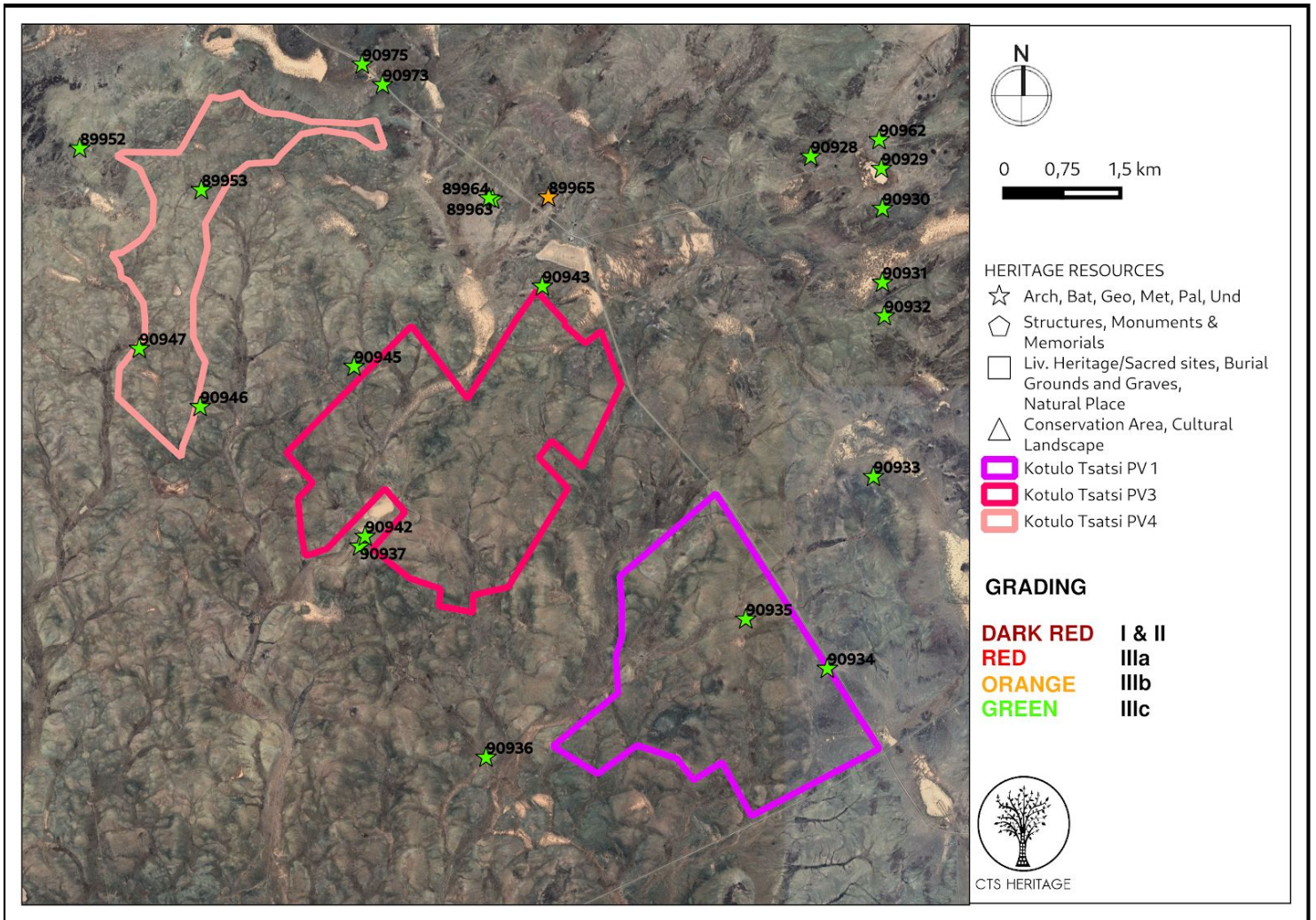


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated (see Heritage Screening Assessment for insets)



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## **4. IDENTIFICATION OF HERITAGE RESOURCES**

### **4.1 Field Assessment**

The detailed spatial diagrams for PVs 3 & 4 were not available at the time of survey and a much larger area was surveyed as a result. Particular attention was paid to the area surrounding the dolerite outcrops near the Styns Vley farmhouse complex which had been previously assessed by Jaco van der Walt to ensure possible engravings were located and recorded. This area also contained a higher concentration of stone artefacts than was generally encountered elsewhere on the properties surveyed. Despite detailed inspection of the dolerite outcrops, no engravings were found. Furthermore, the generally low density of artefacts found on the farms was notable. As found by Van der Walt in 2014, the regular distribution of sparse artefacts and isolated finds can be detected across the entire study area but dense site concentrations are virtually absent and, in this case, even the dolerite outcrops offered only moderately dense artefact scatters. The dolerite outcrops here are much smaller than the major ones in neighbouring areas containing engravings and no perennial streams or rivers are found here. Based on the evidence, it does not appear that the study area was used extensively during the Stone Age.

As previously mentioned, a number of windmills and associated concrete farm dams and kraals dot the landscape to bring up subterranean water to sustain sheep farming. An earthen dam with a broken dam wall was recorded near the 765kV overhead powerline route that bisects the properties. Two main, modern farmhouse complexes lie along the north-northwest gravel road on the northern end of the study area. In total, 47 archaeological observations were made across the properties in addition to the 14 findings made by Almond and Van der Walt (2014). Note that their reports contain additional observations of the geology, palaeontology and archaeology but these lie outside the boundaries of this study area.

After two detailed studies of the archaeology of Portion 2 of Kopjes Vley 281 and Portions 2 & 3 of Styns Vley 280, we feel very confident that the studies completed properly account for the range of archaeological sites present on the properties.





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Figure 4.1: From the western side of KT PV1



Figure 4.2: From the south-eastern side of KT PV1



Figure 4.3: Overlooking KT PV3 from the south west





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Figure 4.4: Overlooking KT PV3 from the south west



Figure 4.5: Overlooking KT PV4 from the southwest, note existing grid connection infrastructure





Figure 4.6: Overlooking KT PV4 from the southwest, note existing grid connection infrastructure



Figure 4.7: Dolerite outcrop in proximity to the farm werf to the north of KT PV3

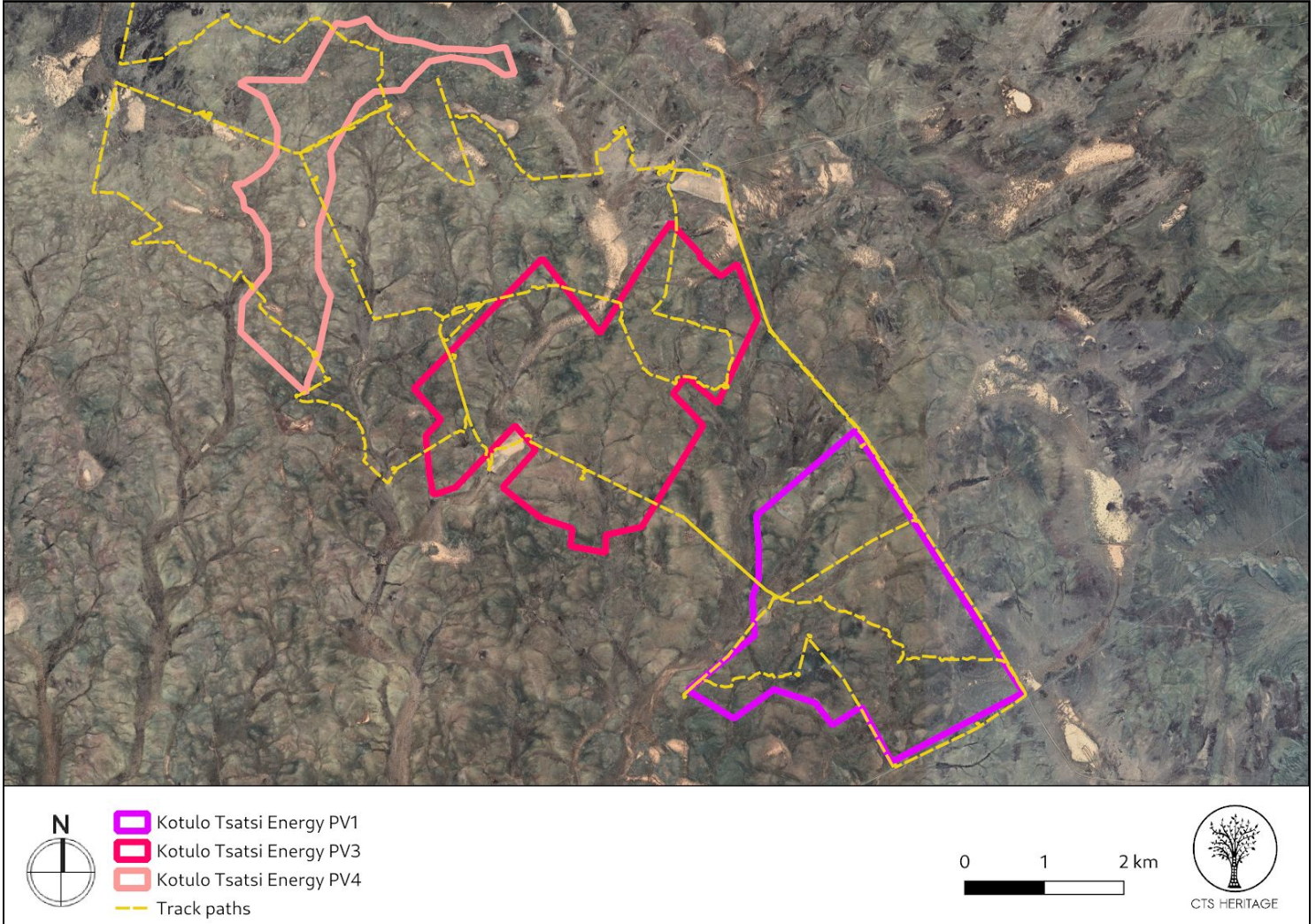


Figure 4.8 Dolerite outcrop in proximity to the farm werf to the north of KT PV3





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**Figure 5: Overall track paths of foot survey**



## 4.2 Archaeological Resources identified

**Table 1: Observations noted during the field assessment (ODA: Outside Development Area)**

| Site No.  | Site Name | Description   | Co-ordinates     |                 | Grading     | Mitigation  |
|-----------|-----------|---|------------------|-----------------|-------------|-------------|
| KT PV 001 | KT PV1    | Hornfels flakes, lower and upper grindstones, granite UG, mostly MSA. Grindstones could be younger (LSA)  | -29.79456        | 20.60874        | NCW         | None        |
| KT PV 002 | KT PV1    | Concrete tank, kraal complex, Some MSA isolated flakes are around here too  | -29.81149        | 20.59833        | NCW         | None        |
| KT PV 003 | KT PV1    | Chert MSA flake cores   | -29.82032        | 20.60056        | NCW         | None        |
| KT PV 004 | KT PV1    | Quartzite flake, notched  | -29.81581        | 20.60223        | NCW         | None        |
| KT PV 005 | KT PV1    | Heavily patinated hornfels flake  | -29.83039        | 20.6132         | NCW         | None        |
| KT PV 006 | KT PV1    | Quartzite and hornfels flakes   | -29.81842        | 20.61399        | NCW         | None        |
| KT PV 007 | KT PV1    | Milky quartzite flake   | -29.81374        | 20.60883        | NCW         | None        |
| KT PV 008 | KT PV3    | Heavily patinated hornfels flake, retouched on dorsal surface, MSA  | -29.79803        | 20.57236        | NCW         | None        |
| KT PV 009 | KT PV3    | Concrete tanks, windmill, kraal complex   | -29.79322        | 20.56573        | NCW         | None        |
| KT PV 010 | KT PV3    | Earthen dam wall, broken midway   | -29.79708        | 20.56044        | NCW         | None        |
| KT PV 021 | KT PV3    | Historic glass, metal and porcelain, small discard area   | -29.79288        | 20.55617        | NCW         | None        |
| KT PV 022 | KT PV3    | Quartzite flake, MSA  | -29.77824        | 20.55976        | NCW         | None        |
| KT PV 023 | KT PV3    | Patinated hornfels flakes, MSA  | -29.77628        | 20.56864        | NCW         | None        |
| KT PV 024 | KT PV3    | Hornfels flake, MSA   | -29.78024        | 20.57773        | NCW         | None        |
| KT PV 025 | KT PV3    | Quartzite flake, hooked end, MSA  | -29.78589        | 20.58086        | NCW         | None        |
| KT PV 026 | KT PV3    | Hornfels flake, MSA   | -29.78728        | 20.59101        | NCW         | None        |
| KT PV 027 | KT PV3    | Hornfels flake, MSA   | -29.78002        | 20.5846         | NCW         | None        |
| KT PV 028 | KT PV3    | Hornfels flakes, MSA  | -29.77149        | 20.58445        | NCW         | None        |
| KT PV 011 | KT PV4    | Kraal complex, concrete dams  | -29.78006        | 20.54553        | NCW         | None        |
| KT PV 012 | KT PV4    | Quartzite flake, smoothed, MSA  | -29.76398        | 20.53808        | NCW         | None        |
| KT PV 017 | KT PV4    | Patinated hornfels flake, MSA   | -29.77631        | 20.52935        | NCW         | None        |
| KT PV 018 | KT PV4    | Dark brown hornfels flakes, pronounced bulbs of percussion, MSA   | -29.7841         | 20.53802        | NCW         | None        |
| KT PV 019 | KT PV4    | Hornfels core, MSA  | -29.78931        | 20.53828        | NCW         | None        |
| KT PV 020 | KT PV4    | Patinated hornfels flakes, MSA  | -29.79726        | 20.54783        | NCW         | None        |
| KT PV 033 | KT PV4    | Hornfels flakes, MSA  | -29.75838        | 20.57773        | NCW         | None        |
| KT PV 034 | KT PV4    | <b>KOT10 (SAHRIS ID 89964), previously recorded on SAHRIS and graded - MSA dolerite flakes laid out, flakes arranged left to right by previous archaeologist Described as Quarry site with miscellaneous large flakes</b> | <b>-29.75843</b> | <b>20.57768</b> | <b>IIIC</b> | <b>None</b> |
| KT PV 035 | KT PV4    | Milky quartz and hornfels flakes in amongst dolerite outcrop, MSA   | -29.75895        | 20.57751        | NCW         | None        |
| KT PV 041 | KT PV4    | White quartz flake, MSA   | -29.75286        | 20.54611        | NCW         | None        |
| 89953     | KT PV4    | <b>Kotulo 05 - Quartzite flakes and chunks. 1 artefact per m<sup>2</sup>, over an area of 15 x 15 meter</b>   | <b>-29,75746</b> | <b>20,53924</b> | <b>IIIC</b> | <b>None</b> |



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|           |        |   |                  |                 |             |             |
|-----------|--------|---|------------------|-----------------|-------------|-------------|
| 89963     | KT PV4 | <b>Kotulo 09 - MSA or possibly macrolithic LSA. Mostly blades on granite. Some ostrich eggshell fragments</b>   | <b>-29,75855</b> | <b>20,57819</b> | <b>IIIC</b> | <b>None</b> |
| 89964     | ODA    | Kraal complex, concrete dams, patinated hornfels flakes   | -29.75691        | 20.52324        | NCW         | None        |
| KT PV 014 | ODA    | Hornfels flakes, MSA  | -29.76601        | 20.51248        | NCW         | None        |
| KT PV 015 | ODA    | Large hornfels flake, MSA   | -29.76865        | 20.51642        | NCW         | None        |
| KT PV 016 | ODA    | Quartzite flake, MSA  | -29.77165        | 20.51977        | NCW         | None        |
| KT PV 029 | ODA    | Valslei farm complex (modern)   | -29.76378        | 20.58916        | NCW         | None        |
| KT PV 030 | ODA    | Hornfels flakes, MSA  | -29.7636         | 20.58295        | NCW         | None        |
| KT PV 031 | ODA    | CCS flake, retouched, near dolerite outcrops, MSA   | -29.76278        | 20.58376        | NCW         | None        |
| KT PV 032 | ODA    | Kraal wall made out of dolerite cobbles, rubbish dump (modern)  | -29.76229        | 20.58436        | NCW         | None        |
| KT PV 036 | ODA    | Hornfels flakes, MSA  | -29.76388        | 20.57203        | NCW         | None        |
| KT PV 037 | ODA    | Hornfels flakes and core, MSA   | -29.76248        | 20.56388        | NCW         | None        |
| KT PV 038 | ODA    | Hornfels and quartzite flakes, MSA  | -29.75709        | 20.55835        | NCW         | None        |
| KT PV 039 | ODA    | Hornfels flakes, MSA  | -29.7648         | 20.55767        | NCW         | None        |
| KT PV 040 | ODA    | Hornfels flake, MSA   | -29.75999        | 20.54988        | NCW         | None        |
| KT PV 042 | ODA    | Kraal complex, concrete dams (modern)   | -29.7462         | 20.53805        | NCW         | None        |
| KT PV 043 | ODA    | Hornfels flake, MSA   | -29.7475         | 20.52971        | NCW         | None        |
| KT PV 044 | ODA    | Quartzite core, MSA   | -29.75063        | 20.51758        | NCW         | None        |
| KT PV 045 | ODA    | Quartzite core, MSA   | -29.73911        | 20.51555        | NCW         | None        |
| KT PV 046 | ODA    | Gannakom farmhouse complex (modern)   | -29.73831        | 20.53775        | NCW         | None        |
| KT PV 047 | ODA    | Quartzite MSA radial core   | -29.71915        | 20.5204         | NCW         | None        |
| 89952     | ODA    | <b>Kotulo 04 - Predominantly MSA with a possible LSA component. Mostly miscellaneous flakes. Artefact recorded over an area of 170 meter x120 meter</b> | <b>-29,75264</b> | <b>20,52299</b> | <b>IIIC</b> | <b>None</b> |
| 89965     | ODA    | <b>Kotulo 11 - Quarry site with miscellaneous large flakes</b>  | <b>-29,7583</b>  | <b>20,58564</b> | <b>IIIC</b> | <b>None</b> |





### 4.3 Selected photographic record

(a full photographic record is available upon request)



Figure 6.1: Observation KT PV001 within KT PV1



Figure 6.2: Concrete tank and kraal complex within KT PV1



Figure 6.3: Observations KT PV003 and 004





Figure 6.4: Observations at KT PV005 and 006



Figure 6.5 Observation at KT PV007



Figure 6.6 Artefacts observations at KT PV008 and 009





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Figure 6.7 Modern farming interventions at KT PV009



Figure 6.8 Earthen dam wall at KT PV010 and kraal complex at KT PV011



Figure 6.9 Artefacts observations at KT PV012 and 013





Figure 6.10 Artefacts observations at KT PV014 and 015



Figure 6.11 Artefacts observations at KT PV016 and 017





Figure 6.12 Artefacts observations at KT PV018 and 019



Figure 6.13 Artefacts observations at KT PV020 and 021



Figure 6.14 Artefacts observations at KT PV022 and 023





Figure 6.15 Artefacts observations at KT PV024 and 025



Figure 6.16 Artefacts observations at KT PV026 and 027



Figure 6.17 Artefacts observations at KT PV028





Figure 6.18 Artefacts observations at KT PV033



Figure 6.19 Artefacts observations at KT PV034



Figure 6.16 Artefacts observations at KT PV035





Figure 6.16 Artefacts observations at KT PV041

## 5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

### 5.1 Assessment of impact to Archaeological Resources

In summary, the area proposed for the development of the Kotulo Tsatsi PV facilities and associated infrastructure has yielded some cultural remains but with varied value and preservation. The isolated and scattered lithic artefacts are typical of a deflated landscape and have very limited cultural value given that they have been accumulated and modified by various natural processes to their current *ex situ* state. None of the archaeological resources identified in this field assessment are considered worthy of conservation.

These findings correlate with the findings of Van der Walt (2014, 2015 and 2017) from the same area and it is agreed that, as per his findings; “In the study area there were only a few areas where surface material was noted. Artefact density is so low that they do not represent individual sites but rather background scatter or find spots. All observations are on the surface and there are no indicators that would suggest deeply stratified material anywhere in the study area. No associated organic remains (such as bone or ostrich eggshell) were noted with any of the stone scatters. Most of the material observed can probably be ascribed to the Middle Stone Age although some can be ascribed to the LSA and are smaller in size (< 5 cm in length). Miscellaneous Flakes, blades and chunks make up the majority of the scatters, and retouch was present on some items”. In our study the predominant raw material was hornfels instead of grey/white quartzite and this was potentially due to the additional time we had to spend on the properties taking the previous findings into account before the new study was completed. This does not, however, materially change the overall assessment made by Van der Walt (2014) as quartzite artefacts are widely found in the area.

No engraved rock art was identified in this assessment, nor was it identified by Van der Walt (2015 and 2017) despite the proximity of the study area to known rock art sites. Furthermore, the dolerite outcrops evident in the geology map located to the east of the study area do not form hills or koppies and are therefore unlikely to have been used in rain-making activities. As such, it is unlikely that the proposed development of the Kotulo Tsatsi PV1, PV3 and PV4 solar energy facilities will negatively impact any significant archaeological heritage resources.

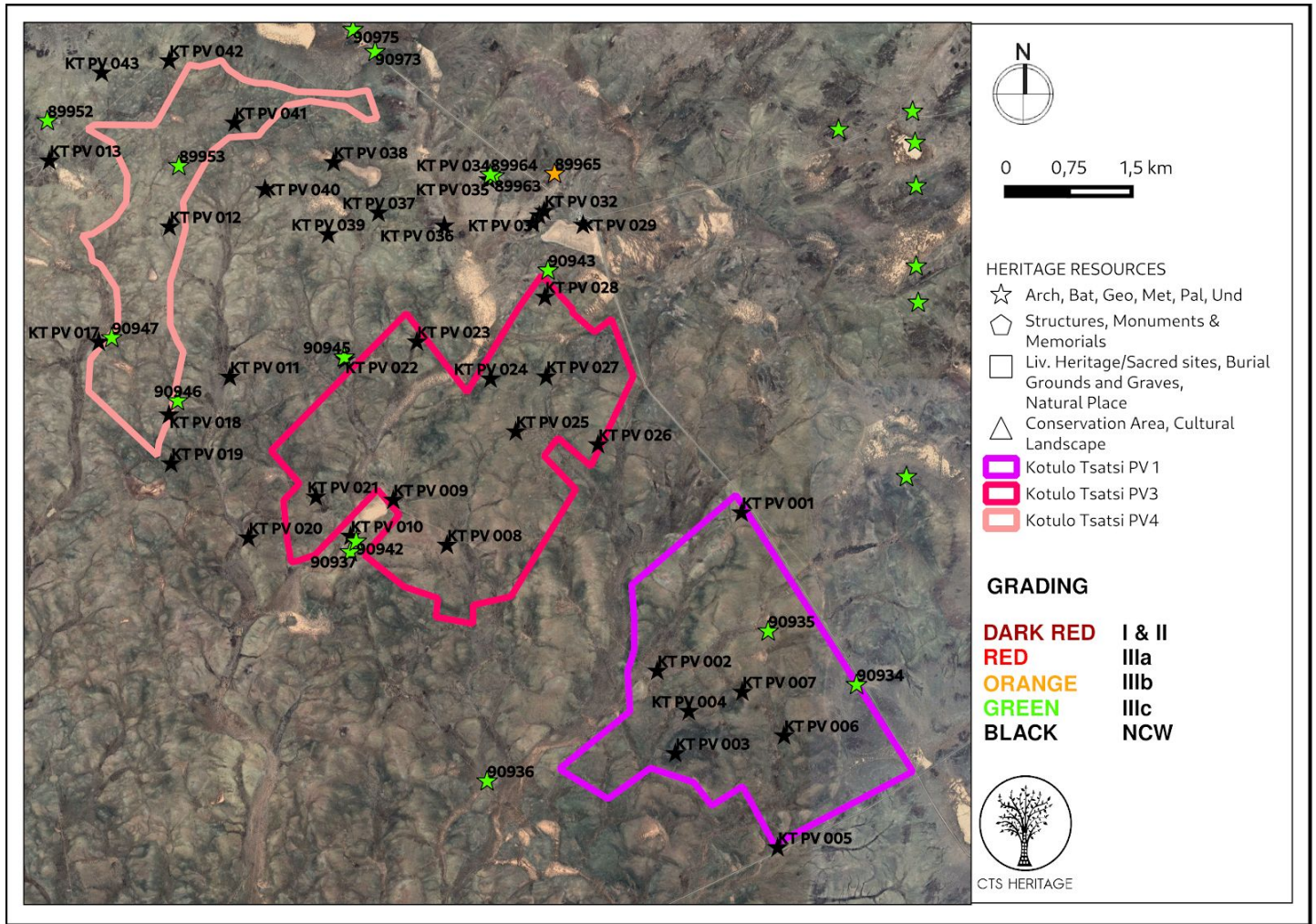


Figure 7.1: Map of heritage resources identified during the field assessment and from SAHRIS, relative to the proposed development footprints

## 6. CONCLUSION AND RECOMMENDATIONS

The areas proposed for the development of the Kotulo Tsatsi Solar Energy facilities and their associated grid infrastructure were thoroughly assessed in the field assessment described in this report. The field assessment conducted found no significant archaeological heritage resources located within the proposed development footprints, which corroborates the findings of previous assessments conducted in this area.

As such, it is unlikely that the proposed development will negatively impact on significant archaeological heritage resources and as such, there is no objection to the proposed development

### Recommendations

There is no objection to the proposed development and its associated infrastructure on condition that:

- Should any previously unrecorded archaeological resources or possible burials be identified during the course of construction activities, work must cease in the immediate vicinity of the find, and SAHRA must be contacted regarding an appropriate way forward.



## 7. REFERENCES

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