APELSER ARCHAEOLOGICAL CONSULTING

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REPORT ON A PHASE 1 HERITAGE ASSESSMENT FOR THE PROPOSED PHALA SPP DEVELOPMENT ON PORTIONS 1, 2, 5 & 7 OF THE FARM TURFBULT 494KR NEAR BELA-BELA, NORTHWEST PROVINCE

For:

ENVIRONAMICS

REPORT: **APAC022/112**

by:

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DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSER Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Environamics, on behalf of Subsolar Energy (Pty) Ltd, to undertake a Phase 1 HIA for the proposed Phala SPP development on Portions 1, 2, 5 and 7 of the farm Turfbult 494KR, near Bela-Bela in the Limpopo Province. The development is located in the Bela-Bela Local Municipality of the Waterberg District Municipality.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There were no known sites in the specific study and development area footprint, but a number were identified in the study area during the assessment. The report will discuss the results of the desktop and field assessment and provide recommendations on the way forward at the end of the document.

From a Cultural Heritage point of view the proposed development actions can continue, taking into consideration the mitigation measures proposed in the report.

CONTENTS

1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Environamics, on behalf of Subsolar Energy (Pty) Ltd, to undertake a Phase 1 HIA for the proposed Phala SPP development on Portions 1, 2, 5 and 7 of the farm Turfbult 494KR, near Bela-Bela in the Limpopo Province. The development is located in the Bela-Bela Local Municipality of the Waterberg District Municipality.

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From a Cultural Heritage point of view the proposed development actions can continue, taking into consideration the mitigation measures proposed in the report.

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2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;

2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;

3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;

4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;

5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects are dealt with mainly in the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) are the two main legislations concerning the conservation of cultural resources, used as guidelines when conducting the Heritage Impact Assessment.

3.1. The National Heritage Resources Act (Act 25 of 1999)

According to the National Heritage Resources Act (Act 25 of 1999) (NHRA), the following is protected as cultural heritage resources:

a. Archaeological artifacts, structures, and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures, and sites older than 75 years
e. Historical objects, structures, and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

a. Places, buildings, structures, and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance
f. Sites of Archaeological and paleontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

The Heritage Impact Assessment (HIA) process is done to determine whether there are any heritage resources located within the area to be developed as well as to determine the possible impacts of the proposed development. An Archaeological Impact Assessment (AIA) only looks at archaeological resources, such as material remains of human life or activities which are at least 100 years of age, and which are of archaeological interest. A HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34(1) of the Act state that no person may demolish any structure or part thereof that is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
A structure refers to any building, works, device or other facility made by people, and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

To alter means any action taken that affects the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology, and Meteorites

Section 35(4) of the Act deals with archaeology, palaeontology, and meteorites. The Act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or paleontological material or object, or any meteorite; or
d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

a. ancestral graves
b. royal graves and graves of traditional leaders
c. graves of victims of conflict
d. graves designated by the Minister
e. historical graves and cemeteries
f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

i. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

ii. destroy, damage, alter, exhume, or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

iii. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations** (**Ordinance no. 12 of 1980**) (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province, and local police. Furthermore, permission must also be gained from the various landowners (i.e., where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker, or an institution declared under the **Human Tissues Act** (**Act 65 of 1983 as amended**).

3.1. The National Environmental Management Act (No. 107 of 1998)

The National Environmental Management Act (NEMA) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and recommendations for the mitigation thereof are made in the Discussion and Conclusions & Recommendations sections of the Report.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied. The report is drafted and developed in line with the requirements of Appendix 3 of the EIA regulations.

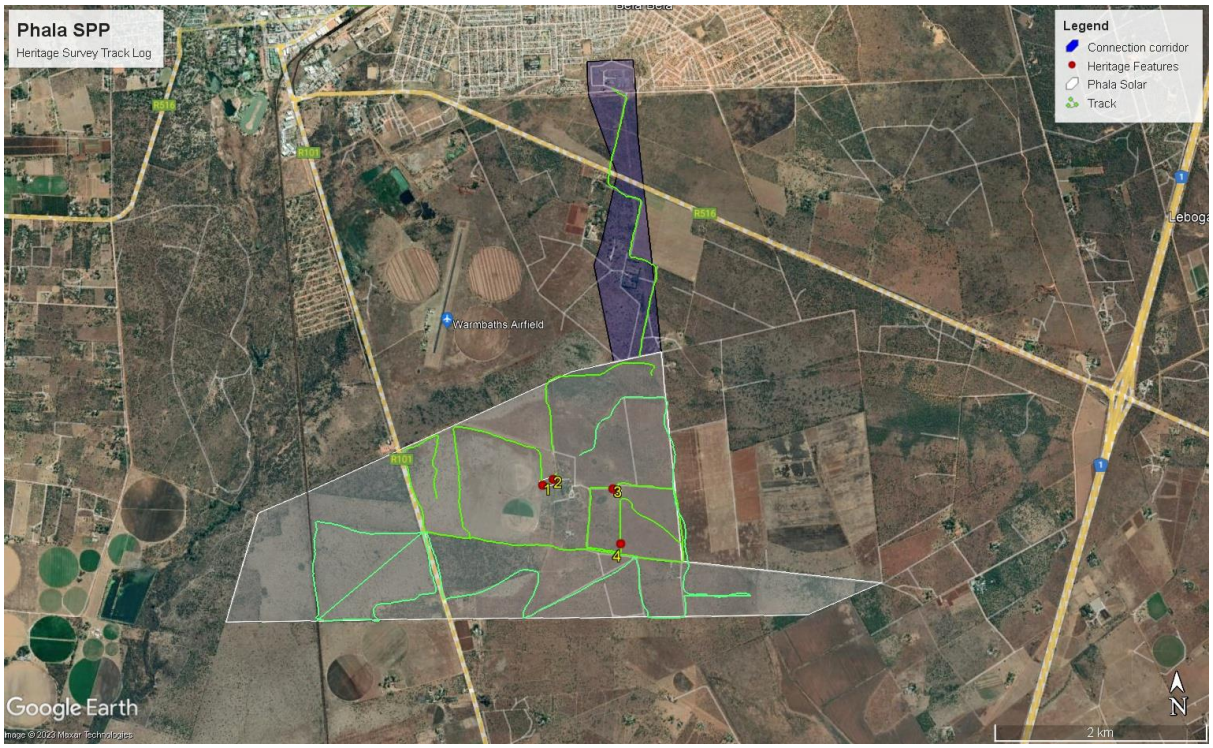
4. METHODOLOGY

4.1. Review of literature

A review of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2. Field survey

The field assessment component of the study was conducted on the 15th of November 2022 according to generally accepted HIA practices and aimed at locating all possible objects, sites, and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.



4.3. Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. This is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4. Documentation

All sites, objects, features, and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. PROJECT DESCRIPTION

Subsolar Energy (Pty) Ltd is planning to develop a Solar Power facility, connecting to existing ESKOM Powerlines & infrastructure, on various portions of the farm Turfbult 494KR. The proposed Phala SPP Project study and development area is located in the Bela-Bela Local Municipality, Waterberg District Municipality of the Limpopo Province. The development is approximately 2km south of the town and will entail the generation of around 350mW of electricity on 652 hectares. The development will include not only the Solar Panels, but also supporting infrastructure.

To produce up to 350MW, the proposed facility will require numerous linked cells placed behind a protective glass sheet to form a panel. Multiple panels will be required to form the solar PV arrays which will comprise the PV facility. The PV panels will be tilted at a northern angle in order to capture the most sun.
Sections of the PV array will be wired to inverters. The inverter is a pulse width mode inverter that converts direct current (DC) electricity to alternating current (AC) electricity at grid frequency. Connecting the array to the electrical grid requires transformation of the voltage from 480V to 33kV to 132kV. The normal components and dimensions of a distribution rated electrical substation will be required. Output voltage from the inverter is 480V and this is fed into step up transformers to 132kV. An onsite substation will be required on the site to step the voltage up to 132kV, after which the power will be evacuated into the national grid via the proposed power line. It is expected that generation from the facility will connect to the national grid via the existing Eskom Warmbad 275/132/66kV MTS Substation. The grid connection route will be assessed within a 200m wide (up to 550m wide in some instances) corridor. The Project will inject up to 300MW into the National Grid. The installed capacity will be approximately 350MW.

An internal electrical reticulation network will be required and will be lain ~2-4m underground as far as practically possible. The supporting infrastructure such as the auxiliary buildings will be situated in an area measuring up to 1.3 ha. A Battery Storage Facility with a maximum height of 8m and a maximum volume of 1,740 m3 of batteries and associated operational, safety and control infrastructure. Access will be obtained via the R101 regional road to the west of the site. An internal site road network will also be required to provide access to the solar field and associated infrastructure. The access and internal roads will be constructed within a 25-meter corridor. For health, safety and security reasons, the facility will be required to be fenced off from the surrounding farm. Fencing with a height of 2.5 meters will be used.

6. DESCRIPTION OF THE AREA

The study & proposed development area is located close to the town of Bela-Bela in the Limpopo Province and on Portions 1, 2, 5 & 7 of Turfbult 494KR.

The topography of the study & proposed development area is for the most part relatively flat and open, with no rocky outcrops, ridges or hills present. The study & development area has been fairly extensively impacted in the recent past by agricultural activities that

included ploughing and crop growing, as well as livestock (cattle) breeding/herding and grazing. A portion of the area is also currently used for game. The Grid Corridor section (through which the Solar Facility will be connected with the Eskom Warmbad Substation) has been heavily impacted by the existing powerline and servitude, as well as formal and informal settlement and urban-related activities. The existing ESKOM powerlines and servitudes also impacted the study area in general to a large degree.

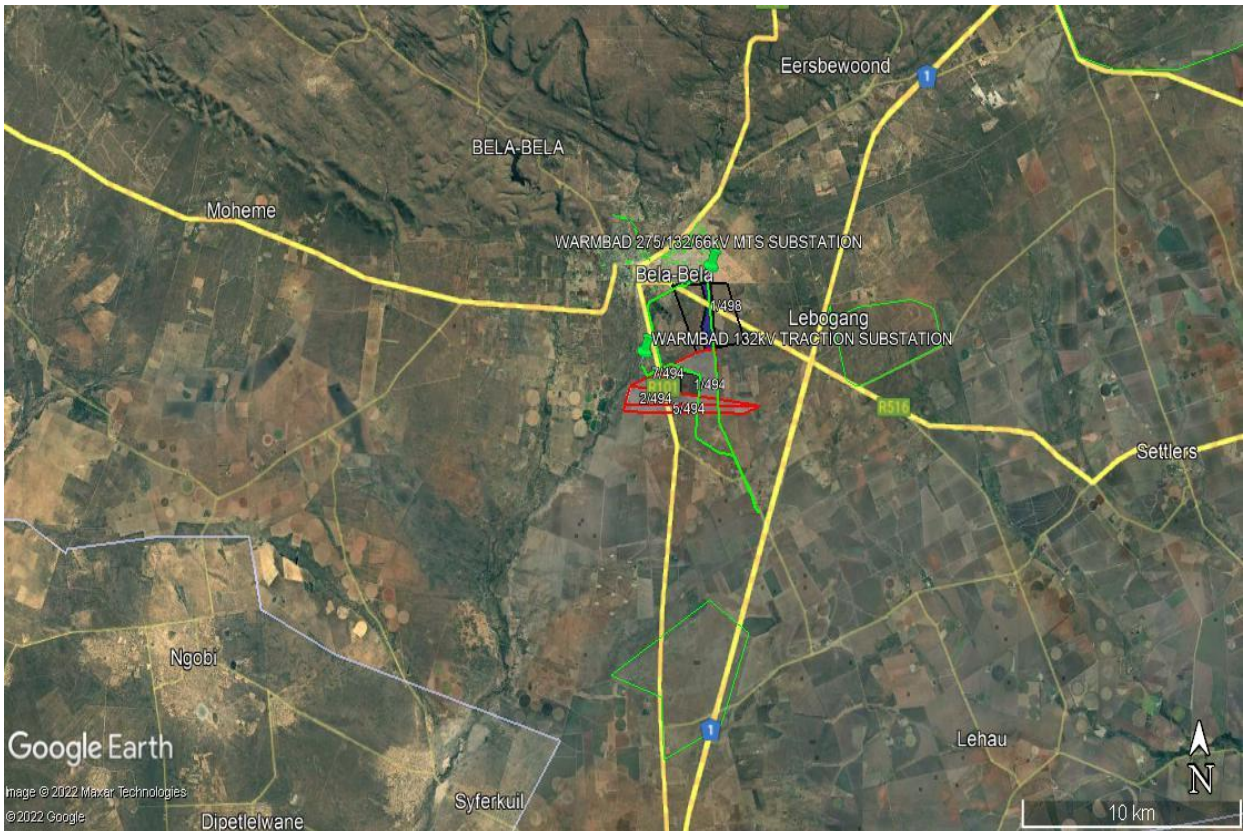


Figure 1: General location of the Phala SPP study and development area (Google Earth 2022).

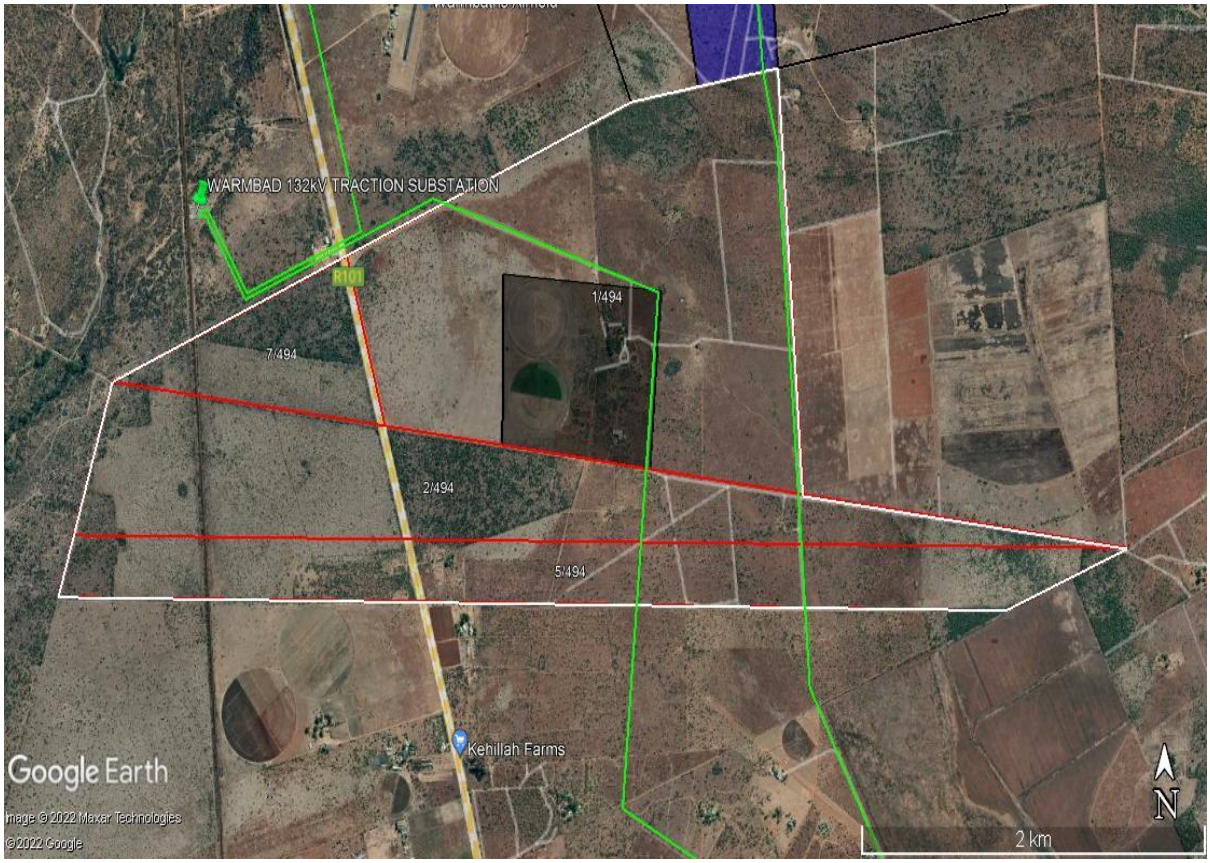


Figure 2: Closer view of the study and development area location and footprint. The green lines denote existing Eskom Powerlines & servitudes (Google Earth 2022).

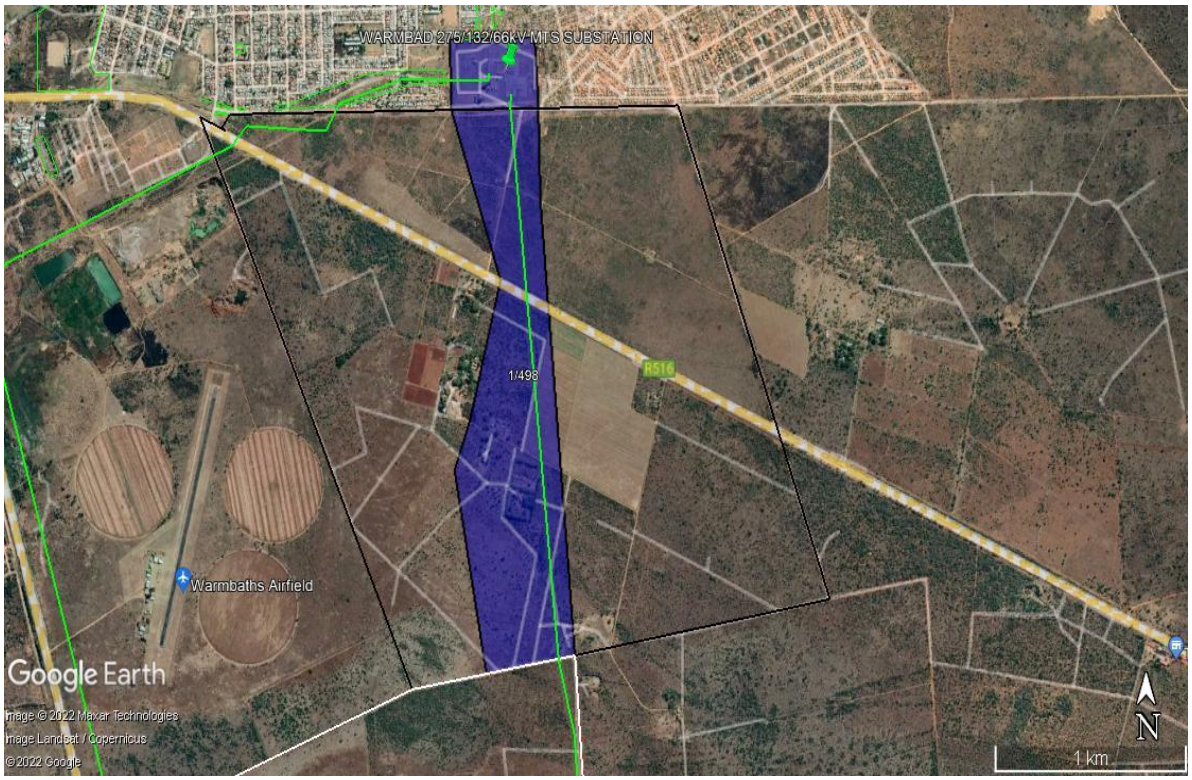


Figure 3: Closer view showing the Grid Connection Corridor with the existing Eskom Line & Warmbaths Substation (Google Earth 2022).

7. DISCUSSION

7.1. Stone age

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided into three periods as listed below. It is important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

- Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago
- Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
- Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

There are no known Stone Age sites in the specific study and development area, with the closest ones found east of Bela-Bela and north of Nylstroom. These sites date to between the Middle & Later Stone Ages (Bergh 1999: 4).

Some Stone Age sites and scatters of Stone Age material (stone tools) were identified in the study area during the November 2022 field assessment.

7.2. Iron age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh1999: 96-98), namely:

- Early Iron Age (EIA) 200 – 1000 A.D
- Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

- Early Iron Age (EIA) 250 – 900 A.D.
- Middle Iron Age (MIA) 900 – 1300 A.D.
- Late Iron Age (LIA) 1300 – 1840 A.D.

Again, for the Iron Age, none is known in the area (Bergh 1999: 7), and none was found during the assessment. The closest Early Iron Age site is located at Broederstroom near Brits (Bergh 1999: 6). An early (prehistoric) trade route passed by Buyskop near Bela-Bela to the Rooiberg/Thabazimbi area (Bergh 1999: 9). At the start of the 19th century the Kgatla group was living in the general geographical area (p.10). According to the work done by Huffman on Iron Age pottery, it is possible that Iron Age sites related to the following industries could

be present in the larger area. This is the Uitkomst facies of the Urewe Tradition dating to between AD1650 & 1820; the Rooiberg facies of the same dating to between AD1650 & 1750; the Madikwe facies also of Urewe (AD1500 – AD1700) and finally the Buispoort facies of Urewe dating to between AD1700 & 1840 (Huffman 2007: 171; 175; 199 & 203).

No Iron Age sites, features or material were identified in the area during the November 2022 assessment. With no rocky ridges or hills present in the area, and therefore little or no building material available for the construction of the typical Late Iron Age stone-walled settlements, it is unlikely that LIA sites would be present here. Large parts of the study & development area is also characterized by turf-soils, and this would also have inhibited building. Areas like these could rather have been favored for livestock grazing & agricultural purposes as is the case in recent historical times

7.3. Historic age

The historical age started with the first recorded oral histories in the area. It includes people moving into the area that were able to read and write. The first Europeans to travel to and in the area were travellers, hunters and missionaries such as Hume in 1825; Schoon in 1836 and Livingstone in 1847 (Berg 1999: 12-13). Warmbaths (Bela-Bela today) was established in 1882 as Hartingsburg initially and was formally given township recognition in December 1903 (Bergh 1999: 143; 150). The larger area around Warmbaths also saw some action during the Anglo-Boer War (or South African War) of 1899-1902, with a small battle taking place at Pienaarsrivier south of area on the 27th of September 1900, while a Concentration Camp was situated to the west of Nylstroom (Bergh 1999: 54).

No historical sites and features were identified and recorded in the study & development area in November 2022. The only structures (homesteads and related features) are situated on a section of Portion 1 of the farm that will not be affected by the proposed development actions.

Results of the November 2022 Field Assessment

Relatively dense vegetation in some sections of the study area hampered access and visibility on the ground; to some extent this was not a big limitation during the fieldwork. The area has been fairly extensively impacted in the recent historic past through agricultural activities, and if any significant sites, features or material of cultural heritage (archaeological and/or historical) origin did exist here it would have been severely impacted or even destroyed. The small likelihood of Iron Age sites being present here has been established and none were identified during the field assessment subsequently. Other impacts in the area (including the Connection Grid Corridor) include the existing ESKOM Powerlines, Pylons and related servitudes.

Figure 4: A section of the study area close to homesteads with a citrus grove. This area will not be impacted.

Figure 5: A livestock (cattle) area.

Figure 6: A view of a section of the area showing the fairly extensive impacts of the agricultural activities.

Figure 7: Another section with old and current ploughed fields visible.

Figure 8: A view of the area where the various homesteads and related structures are situated in Portion 1 of the farm. This area will be avoided by the development.

Figure 9: In some sections the vegetation was fairly dense.

Figure 10: Open patches such as these were checked for the presence of archaeological material & sites.

Figure 11: A view of one of the dirt access roads in the area as well as an ESKOM Powerline line.

Figure 12: Large parts of the area are characterized by turf soils.

Figure 13: Grass cover was very dense in parts, hampering visibility on the ground.

Figure 14: View of part of the existing ESKOM Powerline and servitude.

Figure 15: Another view of the ESKOM line.

Figure 16: Dense vegetation in another section.

Figure 17: The generally flat and open nature of the study area is evident in this view.

Figure 18: At the start of the Grid Connection Corridor using the existing ESKOM line towards the Warmbaths Substation to the north.

Figure 19: The Warmbaths Substation where the Phala SPP will connect using the existing Eskom lines.

Figure 20: A view of a section of the Grid Connection Corridor running from the substation south towards the Phala SPP study area.

Figure 21: Another view of the existing ESKOM line that will be used.

A number of Stone Age-related sites were however identified in the area during the assessment. Most of these were found in open eroded areas, close to or in existing dirt roads or in areas where animals keep on a constant basis (such as water holes in the game farm section of Portion 1 of the farm). These sites are represented by scatters of Middle and Later Stone Age (MSA-LSA) materials of varying densities, all located in open-air surface contexts with no in situ stratigraphic context. Although this aspect decreases the archaeological significance of the finds and sites, and even though some sites are located outside of the direct impact area of the development, the general lack of known sites of Stone Age origin in the area increases their significance to some degree. Many similar sites and finds could also still be invisible as a result of the vegetation cover found in large parts, and with a number of the recorded sites more than likely to be negatively impacted by the proposed Phala SSP development, Phase 2 Archaeological Mitigation will be recommended.

The Stone Age material (tools) identified on the sites included cores, waste-flakes, and flake-tools such as scrapers, blades and broken points.

GPS Location of Sites: S24 55 31.70 E28 19 05.30 (Site 1); S24 55 30.00 E28 19 08.90 (Site 2) S24 55 33.30 E28 19 29.00 (3) and S24 55 50.10 E28 19 31.20 (Site 4)
Cultural Significance: Medium to High
Heritage Significance: Grade III: Other heritage resources of local importance and therefore worthy of conservation.
Field Ratings: General protection A (IV A): Site should be mitigated before destruction (high/medium significance)
Mitigation: It is recommended that Phase 2 Archaeological mitigation be undertaken for the Stone Age sites/finds in the area that will be impacted by the Phala SPP development. This will entail the surface sampling of representative material from the sites in the area, as well as the detailed mapping of the sites before destruction. A Sampling Permit from SAHRA will be required for this purpose

Figure 22: Stone Age material from Site 1.

Figure 23: Stone Age material from Site 2.

Figure 24: A view of the location of Site 3.

Figure 25: Some of the Stone Age material from Site 3.

Figure 26: A stone tool from Site 4.

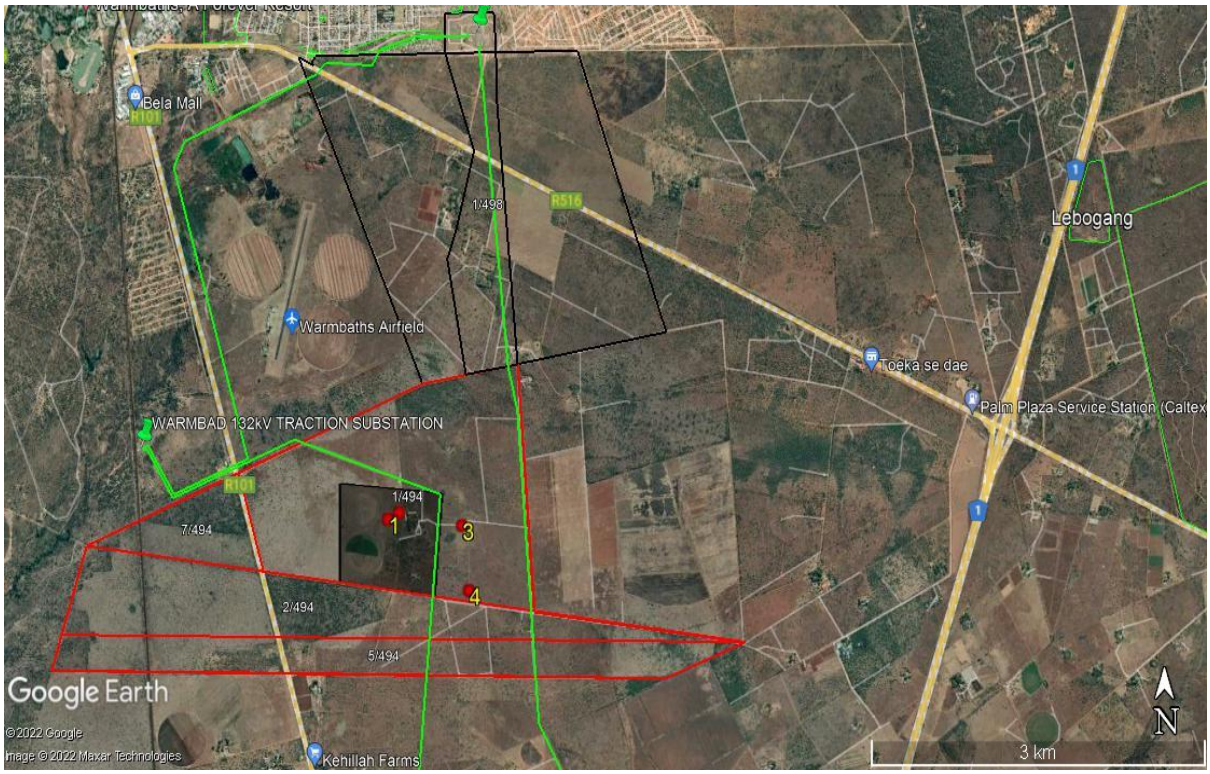


Figure 27: Map showing the location of the sites recorded in the area during the assessment (Google Earth 2022).

Impact Assessment and Mitigation Measures

The significance of impacts is determined using the following criteria:

Probability: describes the likelihood of the impact actually occurring

- **Improbable:** the possibility of the impact occurring is very low, due to the circumstances, design or experience.
- **Probable:** there is a probability that the impact will occur to the extent that provision must be made therefore.
- **Highly probable:** it is most likely that the impact will occur at some stage of the development.
- **Definite:** the impact will take place regardless of any prevention plans and there can only be relied on mitigation measures or contingency plans to contain the effect.

Duration: the lifetime of the impact

- **Short Term**: the impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
- **Medium Term:** the impact will last up to the end of the phases, where after it will be negated.
- **Long Term:** the impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.
- **Permanent:** the impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Scale: the physical and spatial size of the impact

- **Local:** the impacted area extends only as far as the activity, e.g. footprint
- **Site:** the impact could affect the whole or measurable portion of the abovementioned property.
- **Regional:** the impact could affect the area including the neighboring residential areas.

Magnitude/Severity: Does the impact destroy the environment, or alter its function

- **Low:** the impact alters the affected environment in such a way that natural processes are not affected.
- **Medium:** the affected environment is altered, but functions and processes continue in a modified way.
- **High:** function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

- **Negligible:** the impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.

- **Low:** the impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.
- **Moderate:** the impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.
- **High:** The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

The significance is calculated by combining the criteria in the following formula:

Sum (Duration, Scale, Magnitude) x Probability
S = Significance weighting; Sc = Scale; D = Duration; M = Magnitude; P = Probability

With some sites, features or material of cultural heritage origin or significance found in the area during the assessment, the impact of the proposed development on heritage is deemed as Moderate.

Aspect	**Description**	**Weight**
Probability	Improbable	1
	Probable	2
	Highly Probable	**4**
	Definite	5
Duration	Short Term	1
	Medium Term	3
	Long Term	**4**
	Permanent	5
Scale	**Local**	**1**
	Site	2
	Regional	3
Magnitude/Severity	Low	2
	Medium	**6**
	High	8
Significance	**Sum (Duration, Scale, Magnitude)**	**x Probability**
	Neglible	≤20
	Low	>20≤40
	Moderate	>40≤60
	High	>60

Results: 4+1+6×4 = 448 i.e. >40≤60

The impact of the proposed development on the cultural heritage in the area is therefore deemed as Moderate based on the Impact Assessment criteria used.

Finally it should also be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) in an area that there is always a possibility that some might have been missed as a result of grass cover and other factors.

8. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Environamics, on behalf of Subsolar Energy (Pty) Ltd, to undertake a Phase 1 HIA for the proposed Phala SPP development on Portions 1,2, 5 and 7 of the farm Turfbult 494KR, near Bela-Bela (Warmbaths) in the Limpopo Province.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. A number of Stone Age-related sites were however identified in the area during the assessment. Most of these were found in open eroded areas, close to or in existing dirt roads or in areas where animals keep on a constant basis, such as water holes. These sites are represented by scatters of MSA & LSA material of varying densities, all located in open-air surface contexts with no in situ stratigraphic context. This aspect does decrease the archaeological significance of the finds and sites, but even though some sites are also located outside of the direct impact area of the development, the general lack of known sites of Stone Age origin in the area increases their significance. Similar sites and finds could also still be unidentified as a result of the vegetation cover found in large parts, and with a number of the recorded sites more than likely to be negatively impacted by the proposed Phala SSP development, Phase 2 Archaeological Mitigation are recommended. This will include surface sampling of representative Stone Age material from the area prior to the development work commencing. For this a permit from SAHRA will be required.

The often subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

Finally, from a Cultural Heritage point of view it can be recommended that the proposed Phala SPP Development should be allowed to continue taking into consideration the recommendations provided above.

9. REFERENCES

General and closer views of study & development area location, footprint & Heritage Sites recorded: Google Earth 2022.

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APPENDIX A: DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C: SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance

- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate

- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

i. National Grade I significance: should be managed as part of the national estate

ii. Provincial Grade II significance: should be managed as part of the provincial estate

iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)

iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/ medium significance)

v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)

vi. General protection B (IV B): site should be recorded before destruction (medium significance)

vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D: PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II
Protected areas - An area surrounding a heritage site
Provisional protection – For a maximum period of two years
Heritage registers – Listing Grades II and III
Heritage areas – Areas with more than one heritage site included
Heritage objects – e.g. Archaeological, paleontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states
Structures – Older than 60 years
Archaeology, paleontology and meteorites
Burial grounds and graves
Public monuments and memorials

APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.

2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.

3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.

4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.

5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.

6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.