

HERITAGE IMPACT ASSESSMENT REPORT

PROPOSED POLOKWANE SOLAR PARK. POLOKWANE LOCAL MUNICIPALITY. CAPRICORN DISTRICT. LIMPOPO PROVINCE.

FOR: Phakanani Environmental
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Executive Summary

This report addresses the development of a proposed Solar Park located on the farm Weltevreden 746 LS, approximately 8km southeast of the Polokwane CBD.

- A pedestrian and literature study was undertaken of the project area.
- The report identifies 14 recorded heritage sites.

The report recommends the following mitigation measures:

- That a Phase 2 assessment be undertaken at Site 1 in order to adequately document and date the site. This assessment should include a shovel pit and/or auger exploration to locate any possible graves on the site.
- Sites 2 – 13 should be adequately documented, mapped and where possible dated in order to record the continuum of the cultural landscape in the affected development area.
- The public participation process for the development should specifically include in the agenda a point to address the issue of possible graves at the historic sites 2 – 13 mentioned above.
- Should the area around Site 14 be affected by the development, then the possibility of the recorded stone stack being a grave must be verified. This can be done via the public participation process or else through manual testing.

From a heritage resources management point of view there is no objection towards the proposed project on condition that the recommendations are implemented.

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1. INTRODUCTION AND TERMS OF REFERENCE

1.1 Project description and location

The proposed Solar Park is located on the farm Weltevreden 746 LS approximately 8km southeast of the Polokwane CBD. It is located adjacent to extensive mining operations such as the Silicon Mine and Smelter, a Stone Quarry and the Municipal Landfill Site.

1.2 Terms of reference and scope of work

Undertake a Heritage Impact Assessment and submit a specialist report, which addresses the following:

- A reconnaissance survey of the proposed development footprint;
- Assessment of the cultural significance of any identified heritage resources;
- Assessment of impacts on identified heritage resources;
- Develop mitigation measures to avoid and / or reduce negative impacts and enhance positive ones;
- Compile an HIA report;
- Submission of the HIA report to SAHRA and LIHRA for Statutory Comment

The scope of work consisted of undertaking a desk top study and field survey to identify possible heritage resources sites within the proposed development area, to evaluate the potential impacts of construction, operation and maintenance of the proposed development on such heritage resources and to indicate if any fatal flaws exist which may prevent the project from proceeding.

1.3 Terrain description

The original vegetation type is the Pietersburg false grasslands but the area is increasingly being pioneered by acacia species due to past and present farming practices. Quartzite outcrops occur in the area.

2. RELEVANT LEGISLATION

Two sets of legislation are relevant for this study with regard to the protection of heritage resources and graves.

2.1 The National Heritage Resources Act (25 of 1999) (NHRA)

This Act established the South African Heritage Resources Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources (Section 7) and the implementation of a three-tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources (Section 8).

In terms of the National Heritage Resources Act (1999) the following is of relevance in terms of the general protection of heritage resources:

Historical remains

Section 34(1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Archaeological remains

Section 35(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority or to the nearest local authority or museum, which must immediately notify such heritage resources authority.

Subsection 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological 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 palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist with the detection or recovery of metals or archaeological material or objects, or use such equipment for the recovery of meteorites.

Subsection 35(5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedures in terms of section 38 has been followed, it may-

- (a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
- (b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
- (c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- (d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Subsection 36(3)

- (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

- (c) destroy, damage, alter, exhume, 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
- (d) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36(6) Subject to the provision of any law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
- (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the content of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Culture Resource Management

Subsection 38(1) Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development* ...

must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

***development** means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including-

- (a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (b) carry out any works on or over or under a place*;
- (e) any change to the natural or existing condition or topography of land, and
- (f) any removal or destruction of trees, or removal of vegetation or topsoil;

****place** means a site, area or region, a building or other structure* ..."

****structure** means any building, works, device or other facility made by people and which is fixed to the ground ..."

2.2 The Human Tissues Act (65 of 1983)

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

3. METHODOLOGY

3.1 Sources of information

The main sources of information are a literature review, a pedestrian reconnaissance of the proposed project area and previous surveys undertaken by the author in the same area. In addition, Google earth and the Topocadastral map 2329DC was studied.

3.2 Limitations

No serious limitations were experienced with regard to the field survey, although grass cover was dense and certain areas are densely vegetated with shrub resulting in low surface visibility. At the time of the heritage impact assessment, no layout plan indicating land utilisations with regard to panel distribution or infrastructure was available.

3.3 Categories of significance

The significance of heritage sites is ranked into the following categories.

No significance: sites that do not require mitigation.
Low significance: sites, which <i>may</i> require mitigation.
Medium significance: sites, which require mitigation.
High significance: sites, which must not be disturbed at all.

The significance of specifically an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

3.4 Terminology

Early Stone Age:	Predominantly the Oldowan artefacts and Acheulian hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.
Middle Stone Age:	Various lithic industries in SA dating from ± 250 000 yrs. - 22 000 yrs. before present.
Late Stone Age:	The period from ± 22 000-yr. to contact period with either Iron Age farmers or European colonists.
Early Iron Age:	Most of the first millennium AD
Middle Iron Age:	10 th to 13 th centuries AD
Late Iron Age:	14 th century to colonial period. <i>The entire Iron Age represents the spread of Bantu speaking peoples.</i>
Phase 1 assessments:	Scoping surveys to establish the presence of and to evaluate heritage resources in a given area
Phase 2 assessments:	In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling could be undertaken.

Sensitive: Often refers to graves and burial sites, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

4. BASELINE INFORMATION

Except for the research by Loubser (1994) on the Ndebele archaeology of the area no other significant research was conducted in the project area. The baseline information is therefore generic.

4.1 The Stone Age

The Stone Age covers most of southern Africa and the earliest consist of the Oldowan and Acheul artefacts assemblages. Oldowan tools are regularly referred to as “choppers”. Oldowan artefacts are associated with Homo *habilis*, the first true humans. In South Africa definite occurrences have been found at the sites of Sterkfontein and Swartkrans. Here they are dated to between 1.7 and 2 million years old. Bearing in mind the proximity of the Makapans Valley palaeontological site about 50km south-east of the project area it is possible that they may occur here. This was followed by the Acheulian technology from about 1.4 million years ago which introduced a new level of complexity. The large tools that dominate the Acheulian artefact assemblages range in length from 100 to 200 mm or more. Collectively they are called bifaces because they are normally shaped by flaking on both faces. In plan view they tend to be pear-shape and are broad relative to their thickness. Most bifaces are pointed and are classified as handaxes, but others have a wide cutting end and are termed cleavers. The Acheulian design persisted for more than a million years and only disappeared about 250 000 years ago. Here, too the Makapans Valley Site is referenced; especially the Cave of Hearths.

The change from Acheulian with their characteristic bifaces, handaxes and cleavers to Middle Stone Age (MSA), which are characterized by flake industries, occurred about 250 000 years ago and ended about 30 000 – 22 000 years ago. For the most part the MSA is associated with modern humans; Homo sapiens. MSA remains are found in open spaces where they are regularly exposed by erosion as well as in caves. Characteristics of the MSA are flake blanks in the 40 – 100 mm size range struck from prepared cores, the striking platforms of the flakes reveal one or more facets, indicating the preparation of the platform before flake removal (the prepared core technique), flakes show dorsal preparation – one or more ridges or arise down the length of the flake – as a result of previous removals from the core, flakes with convergent sides (laterals) and a pointed shape, and flakes with parallel laterals and a rectangular or quadrilateral shape: these can be termed pointed and flake blades respectively. Other flakes in MSA assemblages are irregular in form. The Cave of Hearths in the Makapans Valley Site is referenced.

The change from Middle Stone Age to Later Stone Age (LSA) took place in most parts of southern Africa little more than about 20 000 years ago. It is marked by a series of technological innovations or new tools that, initially at least, were used to do much the same jobs as had been done before, but in a different way. Their introduction was associated with changes in the nature of hunter-gatherer material culture. The innovations associated with the Later Stone Age “package” of tools include rock art – both paintings and engravings, smaller stone tools, so small that the formal tools less than 25mm long are called microliths (sometimes found in the final MSA) and Bows and arrows. Rock art is an important feature of the LSA and is abundant in the Waterberg and the Makgabeng. Rock art has been recorded on the nearby Bakone Malapa Museum and at Moletji, about 30km to the northwest.

4.2 The Iron Age (Early Farming Communities)

According to the most recent archaeological cultural distribution sequences by Huffman (2007), this area falls within the distribution area of various cultural groupings originating out of both the Urewe Tradition (eastern stream of migration) and the Kalundu Tradition (western stream of migration). The facies that may be present are:

Urewe Tradition:	Kwale branch	Mzonjani facies AD 450 – 750 (Early Iron Age)
	Moloko branch	Icon facies AD 1300 - 1500 (Late Iron Age)
Kalundu Tradition:	Happy Rest sub-branch	Doornkop facies AD 750 - 1000 (Early Iron Age)
		Eiland facies AD 1000 – 1300 (Middle Iron Age)
		Klingbeil facies AD 1000 - 1200 (Middle Iron Age)
		Letaba facies AD 1600 - 1840 (Late Iron Age)

The Letaba facies is associated with the Ndebele people of the Polokwane area (Loubser 1994).

Three different types of sites associated with stone walling are found in the area, which Loubser (1994:76) numbered as Group I, II and III sites. Stonewalled sites were normally situated on or close to rocky outcrops, due to the need for stone (Huffman 2007:33).

Group I

These sites are situated on prominent hilltops and consist of an array of sporadic walls, forming terraces, surrounding an area of relatively large enclosures in the centre. Walls were constructed of equal-sized granite blocks, or overturned builders forming a single line. Walls were inventively incorporated into the natural topography and they often appear discontinuous from above. Some terraces were formed by middens heaped up against the rocks, while others were purposefully quarried (Loubser 1994:76). This type of site appears to have been inhabited by Melora Nguni, as similar walling on the saddle of Bambo Hill, at the Bakoni Malapa Museum, is regarded as characteristic of Melora walling (Huffman. pers. comm., 2007).

Group II

This group of sites is located at the base of hills or on gradual rises between valleys, generally facing north. Each site consists of orderly concentric units, with a perimeter wall around a corridor leading to a central enclosure, with smaller ones around it. Walls are mostly of quartzite with granite and milky quartz was also used. Walls comprise two outer faces with stone and rubble infill. Large ashy deposits and dense patches of vegetation are diagnostic of this type of site (Loubser 1994:76).

Similar sites are associated with Kone along the Eastern Plateau. These sites were most likely situated there due to the fact that the area falls in the mist belt and would offer some additional moisture. These sites are named Badfontein sites by Huffman (2007:444) in reference to work conducted by Collett and there are a number of these sites depicted in rock engravings in the Lydenburg area (Maggs 1995:138).

The earliest of the Group II sites, situated along the base of hills, were built in the seventeenth century and were inhabited by Ndebele and Kone people. The first such sites that were built on rises between the valleys date to AD 1838, when chief Mungali and others started to settle in these areas. Most of the Group II sites in the area lasted till 1855 when they were abandoned after the Voortrekkers moved into the area (Loubser 1994:141). These sites, which occur on the gradual rises, are bigger and contain more units than the sites along the hills. It would seem that the population of the area increased, as reflected in the size of the larger settlements. There is also evidence that the sites along the hills were still occupied after the construction of the other sites by incoming groups. This area, as elsewhere in Iron Age Africa, settlement size is linked to the power

of the chief, the larger the settlement and the more units, the more powerful the chief or headman (Loubser 1994:142).

Group III

These sites are an imploded and random version of Group II sites, with the perimeter wall being scalloped and linked to a series of central enclosures by straight walls. These sites are found at the base of hills and on rises such as Group II sites. Some, however, have also been located on the top of hills. Walls are similarly constructed to Group II walls, with sparse cultural deposits such as middens (Loubser 1994:76). These Group III sites appear to have been built after 1855 when the Voortrekkers took control of the area. Areas where Group II sites were located were seldom reoccupied, most likely out of reverence for the ancestral spirits. These Group III sites were occupied by minor headman with little real power and the site layout reflects the socio-economic situation of these groups during this time (Loubser 1994:143).

4.3 The historical landscape

Polokwane (Pietersburg) was finally established in 1886, although whites occupied the area since 1848 and especially after 1867 with the collapse of Schoemansdal which was located at the base of the Soutpansberg. By then most of the organised Ndebele chieftainships relocated away from the area to the Mokopane area. From 1867 the general area was subdivided into farms and as the town developed so did the need for industrialisation and the development of the adjacent mining infrastructure.

5. RESULTS OF THE SURVEY

5.1 Palaeontology

The area falls within the **grey** colour code of the SAHRIS Palaeontological Sensitivity Map. No further action is required.

5.2 Stone Age remains

Middle Stone Age material is abundant in the Polokwane area, however, no Stone Age material was recorded in the project area. The terrain is not suitable for Rock Art as there are no suitable large loose-standing boulders or rock overhangs which would facilitate rock art.

5.3 Late Iron Age (Early Farming Communities)

Loubser (1994) recorded significant Ndebele Group II stone walled settlements at the nearby Silicon Smelter and the Lafarge Stone Quarry (east of the project area). These sites have been largely destroyed by the mining activities. The author previously identified Group III stonewalled sites to the east and north-west of the project area as indicated on the google map (Figure 2). A previous recording of a scatter of ceramic shards within the project area is mentioned under Site 6 below.

It should be noted that there is evidence of continuity from Early Farming Communities settlement into the historic period, and the division must be understood as largely artificial. This true in the project area where aspects of traditional settlement patterns and layout of homesteads will reflect in historical period remains.

5.3.1 Late Iron Age Farming settlement

Site 1. This is a stonewalled settlement measuring approximately 140 meters along its longest axle. It is located on a slightly elevated rocky outcrop. It is overgrown with vegetation and much of the walling had been robbed of its stones, with the result that the layout pattern is somewhat obscured. It is most likely a late Group III site according to Loubser's (1994) classification, dating to post AD1855. No diagnostic ceramics were observed.

General coordinates: S23.964210° E29.519110°

Significance rating: Due to the site's general condition it is rated as low in significance. However, it has medium to high scientific research significance, which would add to the database of such sites in the area.

5.3.2 Historical settlements and homesteads

Sites 2 – 13 are either clusters of individual homesteads or lone standing homesteads dating to the historical period. The sites are not well preserved because of stone robbing and environmental degradation. The sites mainly represent farmworker homesteads.

Site 2. A small cluster of stonewalled enclosures resembling the traditional pattern of a Group III site layout. Contains mainly foundation layers. It measures approximately 60 meters in diameter. The site had been disturbed by an ESKOM Power line that was constructed over it.

General coordinates: S23.966721° E29.516410°

Significance rating: Low.

Site 3. It consists of the remains of foundations of a stonewalled courtyard enclosure of what would have been a single homestead.

General coordinates: S23.966460° E29.517300° photos 318

Significance rating: Low.

Site 4. A small cluster of stonewalled enclosure foundations with rectangular house.

General coordinates: S23.965999° E29.517324°

Significance rating: Low.

Site 5. The remains of a stonewalled courtyard enclosure foundation of what would have been a single homestead.

General coordinates: S23.965280° E29.517530°

Significance rating: Low.

Site 6. This site is located on a quartzite and calcrete outcrop. It contains some stonewall foundations in a cluster with low density undecorated ceramics and some industrial metal scrap.

General coordinates: S23.958702° E29.518470°

Significance rating: Low.

Site 7. The site consists of a cluster of stonewall foundations of homestead remains. One of the enclosures retained a fairly well preserved wall.

General coordinates: S23.953724° E29.508864°

Significance rating: Low.

Site 8. The site consists of the foundation remains of a single homestead.

General coordinates: S23.953570° E29.510540°

Significance rating: Low.

Site 9. The site consists of the foundation remains of a single homestead.

General coordinates: S23.953670° E29.510960°

Significance rating: Low.

Site 10. The site consists of the foundation remains of a single homestead.

General coordinates: .953320° E29.511990°

Significance rating: Low.

Site 11. The site consists of the foundation remains of a single homestead. A two-meter-high corner wall of the rectangular home still stands.

General coordinates: S23.951970° E29.514100°

Significance rating: Low.

Site 12. A small cluster of stonewall foundations of homestead remains and enclosures.

General coordinates: S23.950177° E29.513280°

Significance rating: Low.

Site 13. The site consists of the foundation remains of a single enclosure

General coordinates: S23.948280° E29.513820°

Significance rating: Low.

Site 14. This is a deliberate quartzite stone-stacked feature. It was recorded out of caution because it resembles a grave, although no previous habitation exists in the vicinity.

General coordinates: S23.956000° E29.504100°

Significance rating: Undetermined and requires verification.

5.4 Graves and burials sites

No marked graves or burial sites exists on the demarcated terrain. However, Site 1 and Site 2 most probably contains unmarked graves, as do some of the historical homestead areas. The historical homestead areas may particularly contain the graves of infants.

5.5 The built environment

The pedestrian survey revealed no evidence of any historical structures in the project area other than those mentioned above.

6. DISCUSSION

A number of heritage sites, historically dating from the late 19th and early to mid-20th centuries, have been recorded in the proposed project area. The sites have all been degraded due to past destructive processes and are not deemed conservation worthy. However, they form a part of a destroyed, but continuous cultural landscape in the Polokwane area that had previously not been adequately recorded. In the event of the Solar Project being given the go-ahead for development, mitigation for the sufficient recording and mapping of the affected sites are recommended and is considered to be a sufficient heritage management measure to document these heritage remains and secure its incorporation into the regional/provincial database.

7. EVALUATION AND STATEMENT OF SIGNIFICANCE

7.1 Significance criteria in terms of Section 3(3) of the National Heritage Resources Act.

Table 3: Significance criteria and rating

	Significance	Rating
1.	The importance of the cultural heritage in the community or pattern of South Africa's history (Historic and political significance)	Low
2.	Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage (Scientific significance).	None
3.	Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage (Research/scientific significance)	Medium
4.	Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects (Scientific significance)	None
5.	Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group (Aesthetic significance)	None
6.	Importance in demonstrating a high degree of creative or technical achievement at a particular period (Scientific significance)	None
7.	Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (Social significance)	Low
8.	Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa (Historic significance)	None

9.	The significance of the site relating to the history of slavery in South Africa.	None
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7.2 Section 38(3) (c) An assessment of the impact of the development on such heritage resources.

The development will have a negative impact on heritage remains. However, mitigation for the adequate recording of the heritage remains will have a beneficial impact on the regional database.

7.3 Section 38(3) (d) An evaluation of the impact of the development on heritage resources relative to the sustainable economic benefits to be derived from the development.

Low.

7.4 Section 38(3) (e) The results of consultation with the communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources.

Social consultative process is ongoing.

7.5 Section 38(3)(f) If heritage resources will be adversely affected by the proposed development the consideration of alternatives.

Forms part of the EIA process and has not yet been identified.

7.6 Section 38(3)(g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.

Refer to recommendations for mitigation measures.

8 RECOMMENDATIONS

In view of the above it is recommended that;

- That a Phase 2 assessment be undertaken at Site 1 in order to adequately document and date the site. This assessment should include a shovel pit and/or auger exploration to locate any possible graves on the site.
- Sites 2 – 13 should be adequately documented, mapped and where possible dated in order to record the continuum of the cultural landscape in the affected development area.
- The public participation process for the development should specifically include in the agenda a point to address the issue of possible graves at the historic sites 2 – 13 mentioned above.
- Should the area around Site 14 be affected by the development, then the possibility of the recorded stone stack being a grave must be verified. This can be done via the public participation process or else through manual testing.

9. REFERENCES

Deacon, HJ and Deacon, J. 1999. Human Beginnings in South Africa. *Uncovering the Secrets of the Stone Age*. David Philip Publishers. Cape Town & Johannesburg.

Huffman, T.N. 2007. Handbook to the Iron Age. *The archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press

Loubser, J.H.N. 1994. Ndebele archaeology of the Pietersburg area. Navorsing van die Nasionale Museum Bloemfontein. Volume 10 (part 2). February 1994.

Roodt, F. 2010. Phase 1 Archaeological impact assessment: Proposed Quartzite Mine, Weltevreden 746 LS, Polokwane – Limpopo. Unpublished report Silicon Smelter.

A handwritten signature in black ink, appearing to read 'Roodt', written in a cursive style.

FRANS ROODT (*BA Hons, MA Archaeology, Post Grad Dip. in Museology; UP*)
Principal Investigator, ASAPA No. 120

MAPS AND IMAGES (Figures 1 – 12)

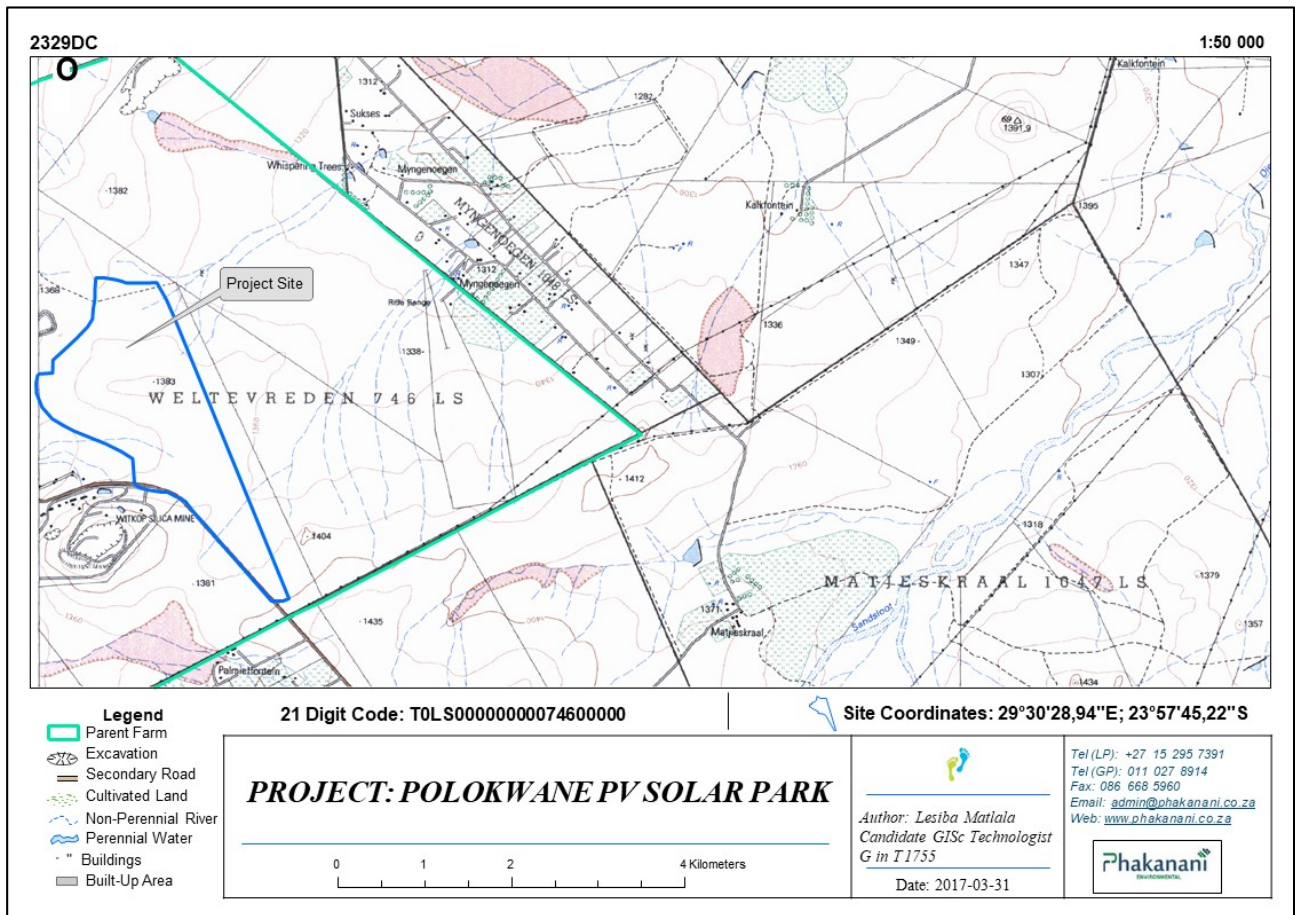


Figure 1. Project location.



Figure 2. Google earth image of project area in relation to Polokwane.

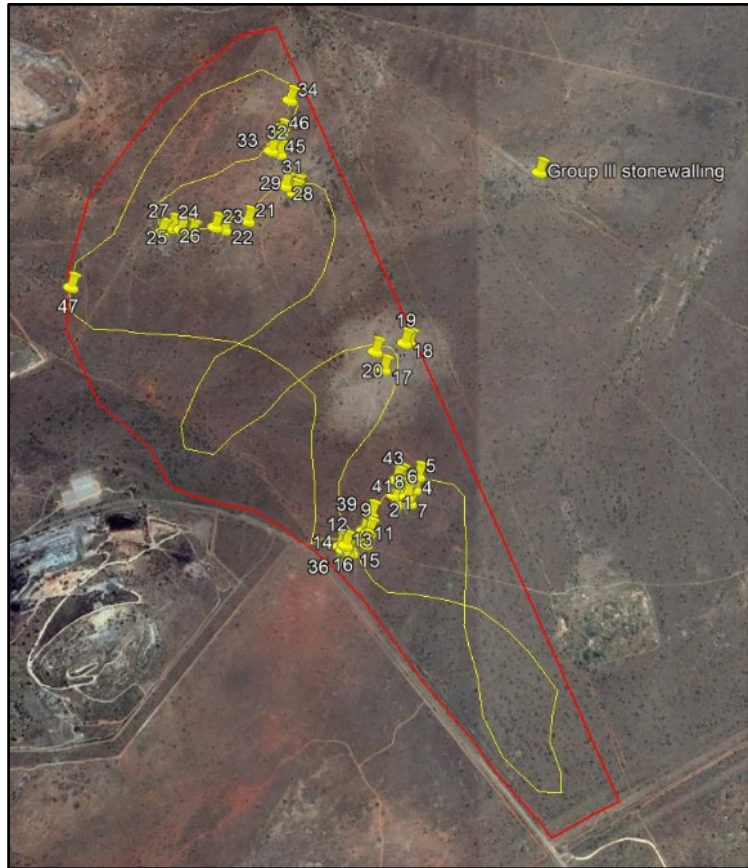


Figure 3. Project area with GPS tracking.



Figure 4. Google Earth image of project area and surrounds. The icons 1 – 14 reflect the heritage sites recorded in the project area.



Figure 5. View of stonewall foundation at Site 1.



Figure 6. View of stonewalling at Site 2.



Figure 7. View of stonewalling remains at Site 5.



Figure 8. Stonewall foundation at Site 6.

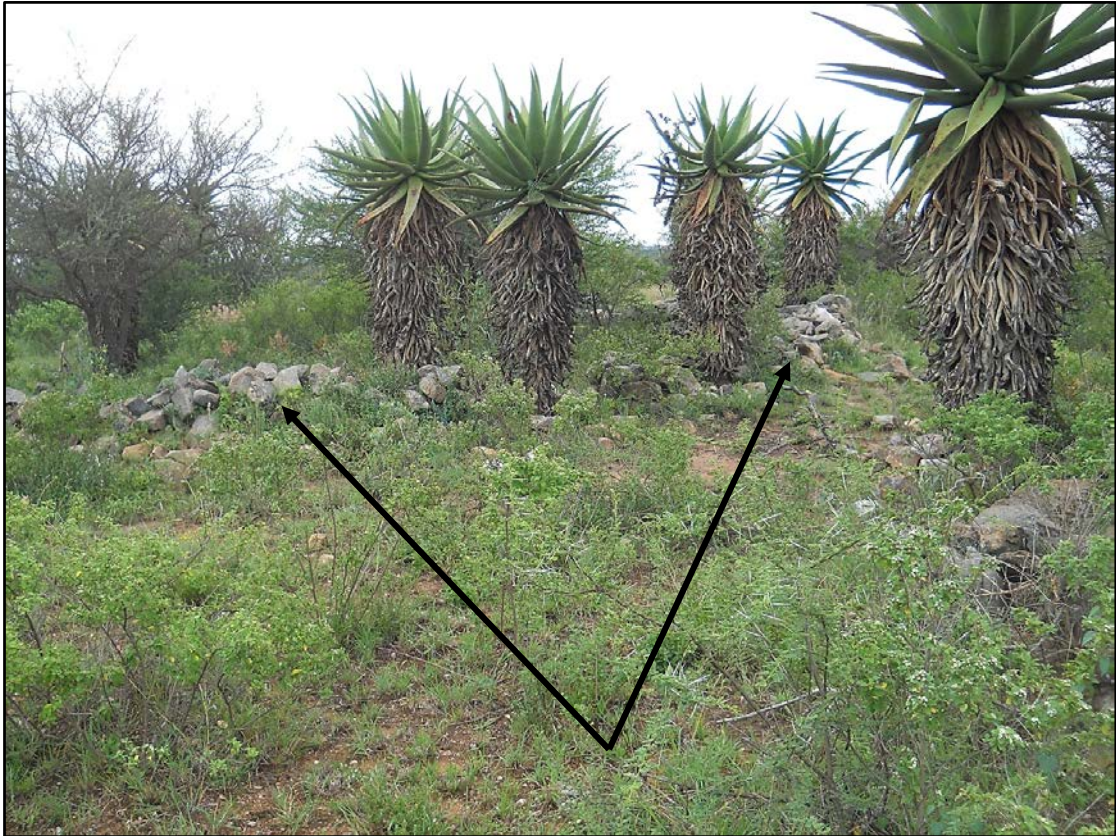


Figure 9. Remains of a stonewalled enclosure at Site 7.



Figure 10. Remains of historical dwelling at Site 11. Note mud used as mortar.



Figure 11. Stonewall foundation at Site 12.



Figure 12. The stacked stone feature which may possibly be a grave at Site 14.