



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON AN ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE
HALFGEWONNEN SOLAR PV FACILITIES, CLOSE TO HENDRINA,
MPUMALANGA PROVINCE**

For:

CABANGA CONCEPTS
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REPORT NO.: AE02107V

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SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

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EXECUTIVE SUMMARY

Purpose:

Archaetnos cc was requested by Cabanga Environmental to conduct an Archaeological Impact Assessment (AIA) for the proposed Halfgewonnen Solar PV Facilities. This is located on portions 7, 8, 9 and 16 of the farm Halfgewonnen 190 IS. The site is located close to the town of Hendrina which lies in the Steve Tshwete Local Municipality of the Nkangala District Municipality. The site however lies in the Govan Mbeki Local Municipality and the Gert Sibande District Municipality.

Project description:

The type of development is the installation of solar PV facilities which includes solar panels with supporting infrastructure and battery backup storage. The site is within an approved Mining Right Area, and the surface rights are held by the Halfgewonnen Colliery. The affected mining rights and surface rights are held by a company called "Overlooked Colliery Alpha (Pty) Ltd. A land use agreement has been reached between the mine and developer of the Solar PV Facility.

The development will be done in two parts. The first PV development will be under 20MW and will initially address the electricity requirements for the immediately surrounding and adjacent mines, and the second part will form part of the Department of Mineral Resources and Energy (DMRE) renewable energy independent power producer procurement programme (REIPPP). Solar PV 2 will generate approximately 60 MW.

Methodology:

The methodology for the study includes a survey of literature and a field survey. The latter was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied. Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage.

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

Findings:

The survey of the indicated area was completed successfully. Four sites were identified. None of these were inside of the area where the plant is being planned.

The following is recommended:

- Sites no. 1 and 2 are graves, the cultural significance of sites is High with a Field rating of Local Grade IIIB. There are two ways of dealing with graves.
 - The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the proposed development.
 - The second option is to exhume and relocate the mortal remains. This usually is done when the graves are in the area to be directly affected by the development. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist are needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy. Since the graveyard is outside of the area of direct development, and already fenced in, it should remain as such.

Option 1 is recommended for the grave sites. Option 2 is thus not recommended, but care should be taken that sites are not impacted directly. The mine/developer however needs to ensure this remains the case.

- The cultural significance of site no. 3 (Farmyard) is Low, and a Field rating is Local Grade IIIC. The description in the phase 1 heritage report is seen as sufficient recording and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
- Site no. 4 is post office/shop and has a Medium cultural significance and receives a field rating of Local Grade IIIB. It means that it should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority. The site had however been mitigated before and is currently preserved. Training should however be given to construction workers in order to ensure they are sensitive to the building.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. It is possible that some sites may only become known later on. In such cases a qualified archaeologist should be called in to investigate the occurrence.

In this regard the following 'Chance find Procedure' should be followed:

- *Upon finding any archaeological or historical material all work at the affected area must cease.*
- The area should be demarcated in order to prevent any further work there

until an investigation has been completed.

- An archaeologist should be contacted immediately to provide advice on the matter.
- *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
- *SAHRA's APM Unit may also be notified.*
- If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.
- The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.
- Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

CURRICULUM VITAE
Prof. Anton Carl van Vollenhoven

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- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

EMPLOYMENT HISTORY

- *1988-1991*: Fort Klapperkop Military Museum - Researcher
- *1991-1999*: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- *1999-2002*: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- *2002-2007*: City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- *August 2007* – present – Managing Director for Archaetnos Archaeologists.
- *1988-2003*: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- *2014-2015*: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- *Since 2015*: Extraordinary Professor of History at the Mahikeng campus of the Northwest University

OTHER

- Has published 36 peer-reviewed and 44 popular articles.
- Has written 11 books/book contributions/conference proceedings .
- Has been the author and co-author of over 1021 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 75 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.

- Member of Association for South African Professional Archaeologists.
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014; 2018-2020).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Editorial member of various scientific journals.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2020).

A list of reports can be viewed on www.archaetnos.co.za.

DECLARATION OF INDEPENDENCE

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.



Signed:

Date: 26 February 2021

LIST OF ACRONYMS:

AIA – Archaeological Impact Assessment
 CMP – Cultural Management Plan
 EAP – Environmental Assessment Practitioner
 EIA – Environmental Impact Assessment
 HIA – Heritage Impact Assessment
 PIA – Palaeontological Impact Assessment
 SAHRA –South African Heritage Resources Agency

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1. INTRODUCTION

Archaeos cc was requested by Cabanga Environmental to conduct an Archaeological Impact Assessment (AIA) for the proposed Halfgewonnen Solar PV Facilities. This is located on portions 7, 8, 9 and 16 of the farm Halfgewonnen 190 IS. The site is located close to the town of Hendrina which lies in the Steve Tshwete Local Municipality of the Nkangala District Municipality. The site however lies in the Govan Mbeki Local Municipality and the Gert Sibande District Municipality (Figure 1-2).

Currently (15 February 2021) the project is in its pre-application phase. The project is aligned with NEMA time-frames - application and scoping by the second quarter of 2021 and the EIA by the third quarter, depending on feedback received from authorities.

The site is within an approved Mining Right Area, and the surface rights are held by the Halfgewonnen Colliery. The affected mining rights and surface rights are held by a company called "Overlooked Colliery Alpha (Pty) Ltd. A land use agreement has been reached between the mine and developer of the Solar PV Facility.

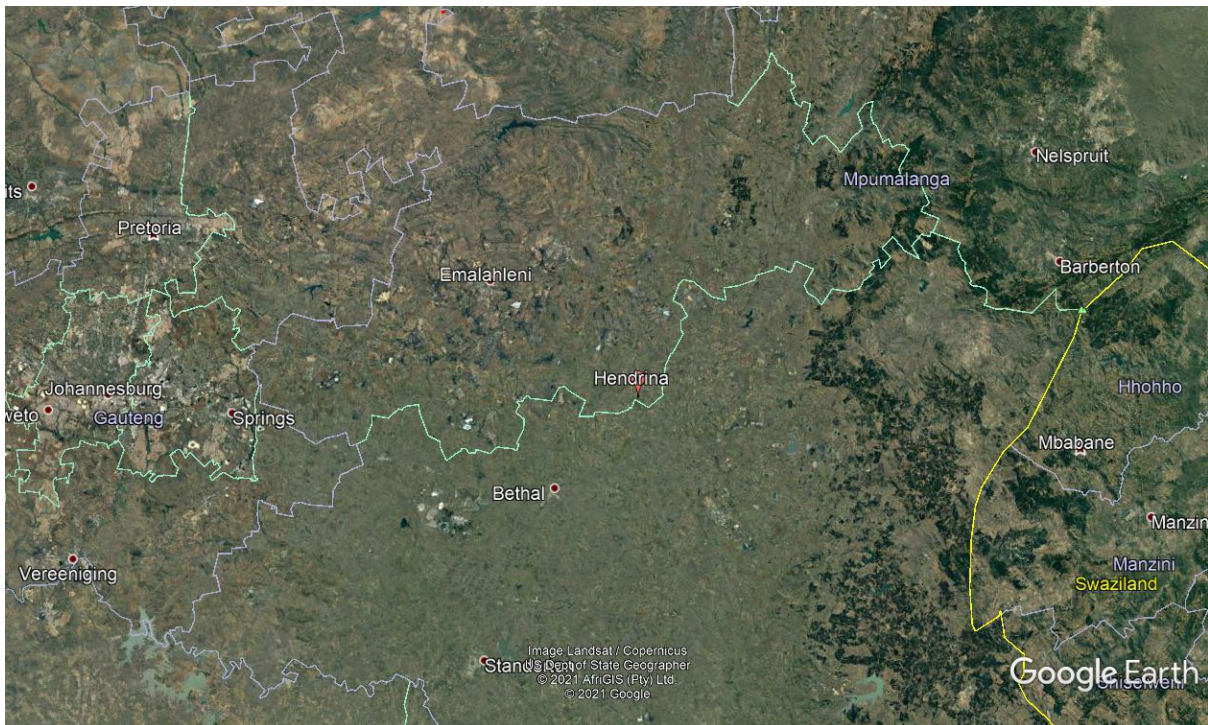


FIGURE 1: LOCATION OF HENDRINA IN THE MPUMALANGA PROVINCE.

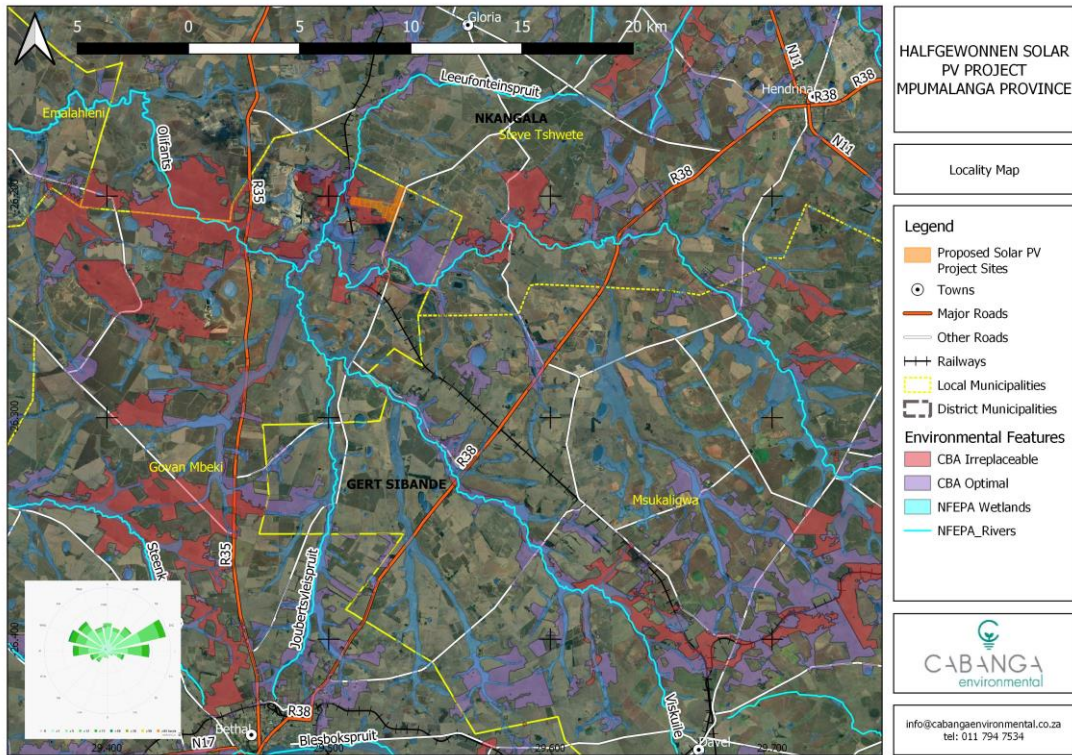


FIGURE 2: SITE LOCATION (CABANGA ENVIRONMENTAL).

The type of development is the installation of solar PV facilities which includes solar panels with supporting infrastructure and battery backup storage. The development will be done in two parts. The first PV development will be under 20MW and will initially address the electricity requirements for the immediately surrounding and adjacent mines, and the second part will form part of the Department of Mineral Resources and Energy (DMRE) renewable energy independent power producer procurement programme (REIPPP). Solar PV 2 will generate approximately 60 MW.

The 1: 50 000 topographic map of the site is 2629BA and a central coordinate for the development is 26°12'14.34"S; 29°31'5.53"E. The developer indicated the area to be surveyed (Figure 3) and it was investigated via foot and off-road vehicle.

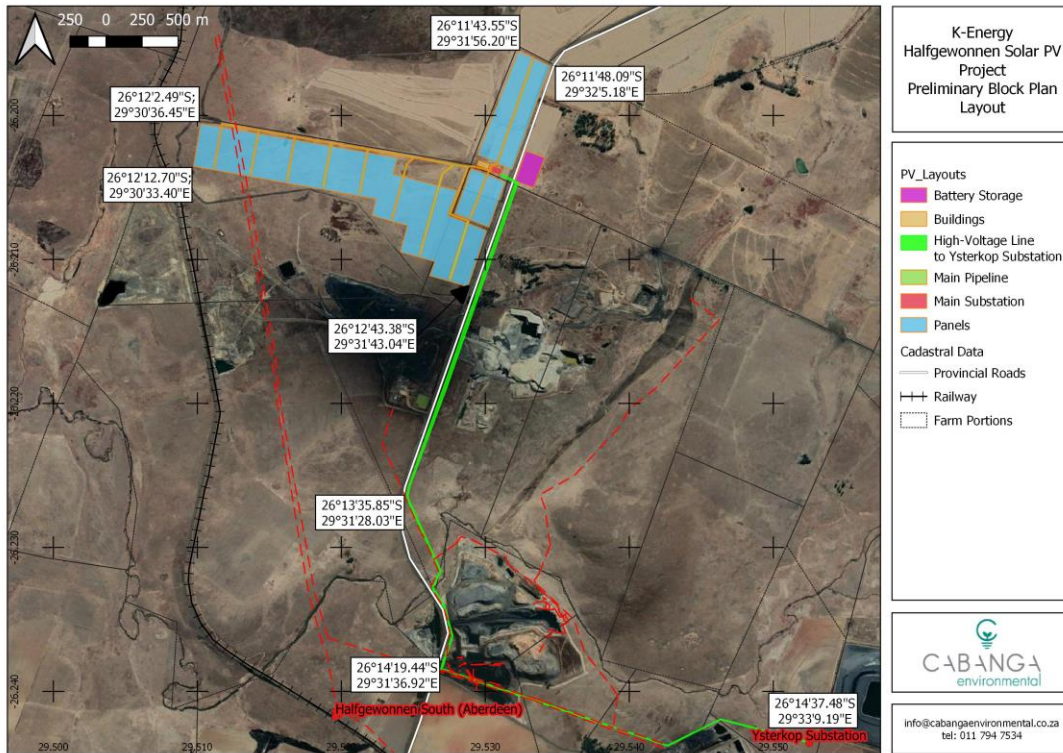


FIGURE 3: DEVELOPMENT PLAN (CABANGA ENVIRONMENTAL).

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Document the found cultural heritage sites according to best practice standards for heritage related studies.
3. Study background information on the project area.
4. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
5. Describe the possible impact of the proposed project changes on these cultural remains, according to a standard set of conventions.
6. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

7. Review applicable legislative requirements.

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. The first of these are the National Heritage Resources Act (Act 25 of 1999) which deals with the cultural heritage of the Republic of South Africa. The second is the National Environmental Management Act (Act 107 of 1998) which inter alia deals with cultural heritage as part of the Environmental Impact Assessment process.

3.1 The National Heritage Resources Act

According to the above-mentioned act 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 (see Appendix D) 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. 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.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon.

An Archaeological Impact Assessment (AIA) only looks at archaeological resources. The different phases during the HIA/AIA process are described in Appendix E. It 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 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means 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.

Alter means any action affecting 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 this 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:

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

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

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) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **National Health Act (Act 61 of 2003)**.

3.2 The National Environmental Management Act

This act (Act 107 of 1998) 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 proposals for the mitigation thereof made.

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.

3.3 The International Finance Corporations' performance standard for cultural heritage

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities.

This is done by clients abiding to the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians). Any possible chance finds, encountered during the project development, also needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. This includes the possible maintenance of such sites in situ, or when not possible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artifacts and structures need to be removed, this should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may, however, only be considered if there are no technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the affected communities. Again, professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be conducted. This entails that such communities should be granted access to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the affected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

4. METHODOLOGY

4.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

4.2 Reference to other specialist studies

On the existing SAHRA Database (SAHRIS) only heritage reports done by Archaetnos on the farm Halfgewonnen 190 IS and some surrounding farms were identified. However, many more such reports were done in the wider area by Archaetnos (Archaetnos database). A report on the geology and soil in the project area were done and a Visual Impact Assessment has been commissioned but only field work has been done yet.

In general graves, farm buildings and a few Iron Age occurrences have been identified. Some of these may be contextually linked to the project area (SAHRIS database; Archaetnos database). The SAHRIS database and the Archaetnos database are internet-based tools, updated constantly.

4.3 Public consultation and stakeholder engagement

General public consultation will be done by Cabanga Environmental and is as part of the Scoping and EIA Process that will be undertaken. The various specialist reports will be utilized for this purpose.

4.4 Physical field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 4-5).

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. In this instance the area was found to be reasonably disturbed, largely due to agriculture. The vegetation cover was mostly between low and medium in height and with dense under footing. The horizontal archaeological visibility was therefore good and the vertical archaeological visibility poor. The area is relatively flat with a gradual slope towards the west. Trees were only located close to the farmhouse to the east and next to the road.

¹ A Garmin Oregon 550 with an accuracy factor of a few meters.

The length of the proposed powerline is 6,7 km and the size of the Solar PV facilities footprint about 90 Ha. The survey took 8 hours to complete.

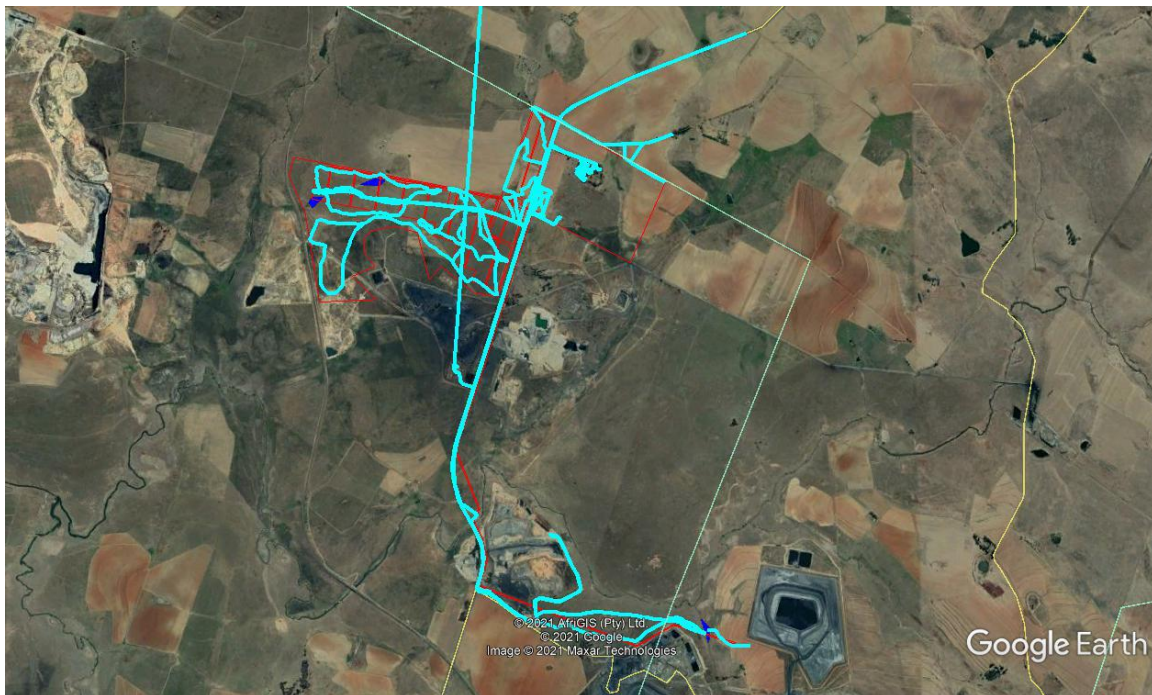


FIGURE 4: GPS TRACK OF THE SURVEY.

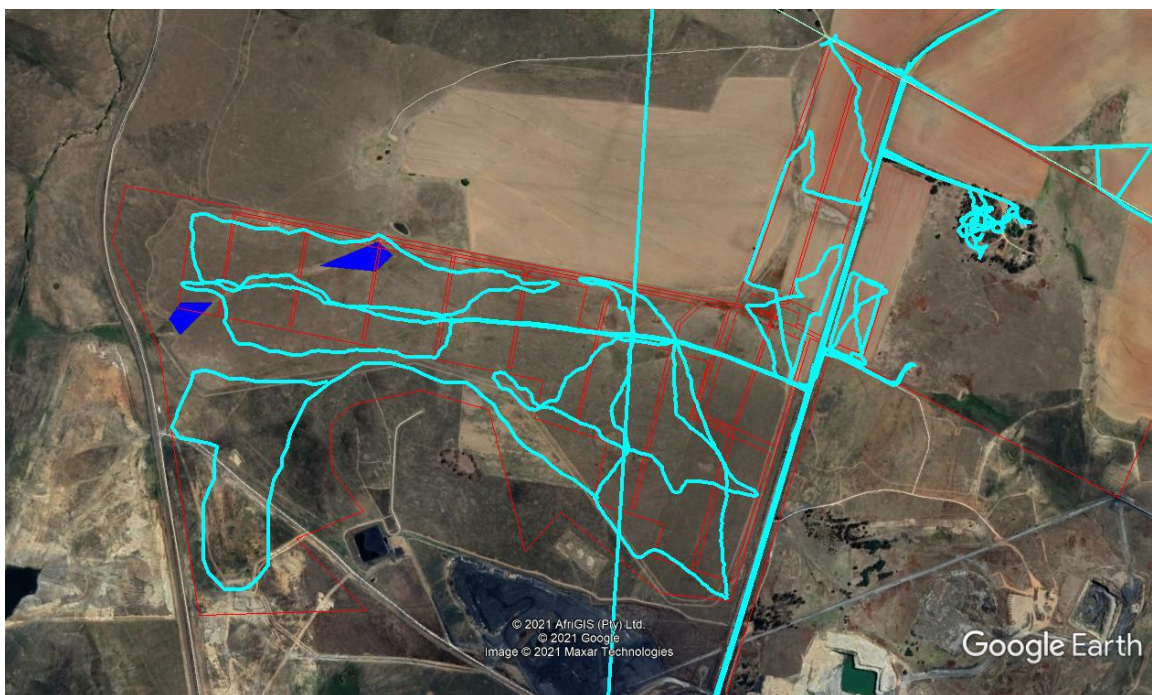


FIGURE 5: GPS TRACK OF THE PROPOSED AREA FOR THE SOLAR PV PLANT. THE BLUE AREAS ARE DAMS.

4.5 Documentation

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

4.6 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

5. CONDITIONS AND ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).

4. All recommendations are made with full cognizance of the relevant legislation.
5. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.
6. Large sections of the surveyed area have been disturbed by recent human interventions consisting largely of agricultural land, with mining activities to the south of the proposed development and therefore it is seen as low risk areas to reveal heritage sites.
7. The vegetation cover in certain areas was reasonably low and open consisting mostly of agricultural fields and open grasslands, but the under footing was dense. These factors both effected the archaeological visibility. Horizontal archaeological visibility was good, and the vertical archaeological visibility was poor.

6. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

The surveyed area is largely disturbed by past and present agricultural activities and consists of open grass fields and agricultural land (Figure 6-8). A farmhouse and yard are located to the east (currently used as offices by the Halfgewonnen Colliery) (Figure 9). Active opencast mining is taking place to the south of the proposed site (Figure 10).

The surrounding landscape is associated with other surface water features such as wetlands and pans. The vegetation in the surveyed area consists mostly low to medium high grasses, soya and pioneer plants, creating a thick under footing. There are no trees in the main surveyed area and the only trees are located close to the farmyard in an area densely overgrown with pioneer vegetation (Figure 11).

The topography of the surveyed site is reasonably flat with a gradual fall to the west. The soil is loosely compacted and sandy in the cultivated areas and a mixture of clay and turf closer to the small stream and bodies of water (Figure 12-13).



FIGURE 6: GENERAL VIEW OF THE SURVEYED AREA.



FIGURE 7: OPEN GRASS FIELD IN THE SURVEYED AREA.



FIGURE 8: SOYA FIELD IN THE SURVEYED AREA.



FIGURE 9: FARMHOUSE USED AS OFFICE.



FIGURE 10: ABOVE GROUND MINING ACTIVITY TO THE SOUTH OF THE SURVEYED AREA.



FIGURE 11: PIONEER VEGETATION CLOSE TO FARMYARD IN THE SURVEYED AREA.



FIGURE 12: STREAM AND DAM ON THE WESTERN SIDE OF THE SURVEYED AREA.



FIGURE 13: WATERLOGGED TURFY SOIL TO THE WESTERN SIDE OF THE SURVEYED AREA

7. HISTORICAL CONTEXT

This geographical area is not well-known as one containing many prehistoric sites. One however has to realize that this most likely only indicates that not much research has been done here before. Four sites have been identified during the survey, but during previous surveys in the surrounding area many more has been identified. Quite a large number of heritage reports were written on the farm Halfgewonnen (including the Overlooked mine on this farm) as well as surrounding farms. The sites identified here are mentioned below and may have a contextual link to the current surveyed area (SAHRIS database; Archaetnos' database).

Since it always is possible that more archaeological sites may become known later, the developer needs to note that such sites need to be dealt with in accordance with the legislation discussed above. Therefore in order to enable the reader to better understand possible archaeological and cultural features that may be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history.

7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is, however, important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

The geographical area around the towns of Hendrina and Bethal is not known as an area containing prehistoric sites dating to the Stone Age. For instance no such sites are indicated on maps contained in a historical atlas of this area (Bergh 1999: 4-5). However this may only be since no research has actually been done in this area. The closest known Stone Age occurrences are a Late Stone Age site at the town of Ermelo and rock art sites in the Chrissiesmeer area (Bergh 1999: 4-5).

However, no natural shelters were seen during the survey and therefore it is possible that these people did not stay here for long periods. The good vegetation in the surrounding area and the Olifants River indicate that ample grazing and water may have been available, making it a prime spot for hunting in the past. Therefore one may assume that Stone Age people probably would have moved through the area.

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 (Coertze & Coertze 1996: 346). In South Africa it can

be divided in two separate phases according to Van der Ryst & Meyer (1999: 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.

No sites from the Early Iron Age have been identified in the area before (Bergh 1999: 6). Again it needs to be stated that this may only be a result of the lack of research done in this part of the country.

In contrast to the mentioned periods in time, it is known that Late Iron Age sites are found in a large area around the towns of Bethal and Standerton. It includes at least 585 such sites. At none of these indications of metal working has been found (Bergh 1999: 6-7), meaning that it would mostly consist of stone walled living complexes. It is also known that the early trade routes did not run through this area (Bergh 1999: 9). A few Late Iron Age occurrences have nevertheless been identified by Archaetnos on adjacent farms (Archaetnos database).

However, during the survey no such sites were identified. The good grazing in the broader environment however would have provided a good environment for Iron Age people although building material would have been reasonably scarce. One would therefore expect that Iron Age people may have utilized the area. The white settlers moved into this environment later on for the same reason.

It should be indicated that eight Late Iron Age sites was identified on a neighbouring farm during a previous heritage survey (Van Vollenhoven et al 2021: 41-52). The sites consist of semi-circular and circular walling, with no other visible features (Figure 14).



FIGURE 14: KNOWN IRON AGE SITES IN THE SURROUNDING AREA OF THE SURVEYED SITE.

7.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

At the beginning of the 19th century the Phuthing, a South Sotho group, stayed in the vicinity of modern day Bethal. During the Difaquane they fled to the south (Bergh 1999: 10-11; 109). In 1829 the traveller Robert Scoon passed through an area to the north of Bethal (Bergh 1999: 13). The first white farmers only settled here during the late 1850's. By the 1890's this area was inhabited by many white farmers (Bergh 1999: 18-20). The town of Bethal was established in 1880 and it became an independent district in 1898 (Bergh 1999: 20-21).

During the Anglo Boer War, the Highveld areas saw much action consisting of various skirmishes between Boer and Brit (Bergh 1999: 51, 54). It includes skirmishes on the farms Oshoek (4 December 1901), Trigaardsfontein (10 December 1901), Witbank (11 January 1902) and Nelspan (26 January 1902). It however is not possible to indicate how close these came to the project area.

One may therefore expect to find farm buildings, structures, and objects in the area. Many graveyards and buildings from this period in time have indeed been identified in surrounding areas during past surveys (Archaetos database). This includes a total of twelve grave sites (Van Vollenhoven 2013a: 20; Van Vollenhoven 2017: 24-25; Van Vollenhoven and Smit 2018: 26-33). A few sites in the vicinity were also indicated by the EIP (Figure 15).



FIGURE 15: KNOWN GRAVE SITES IN THE SURROUNDING AREA OF THE SURVEYED SITE.

Some historical sites are also known from the surveys done in the surrounding area. Five historical sites are known (Figure 16), all associated with farming activities, e.g., farmhouses, a wagon house and storage shed (Van Vollenhoven 2017: 21-24; Van Vollenhoven and Smit 2018: 33-35; Van Vollenhoven et al 2021: 35-41). Again, the EIP indicated a few sites.

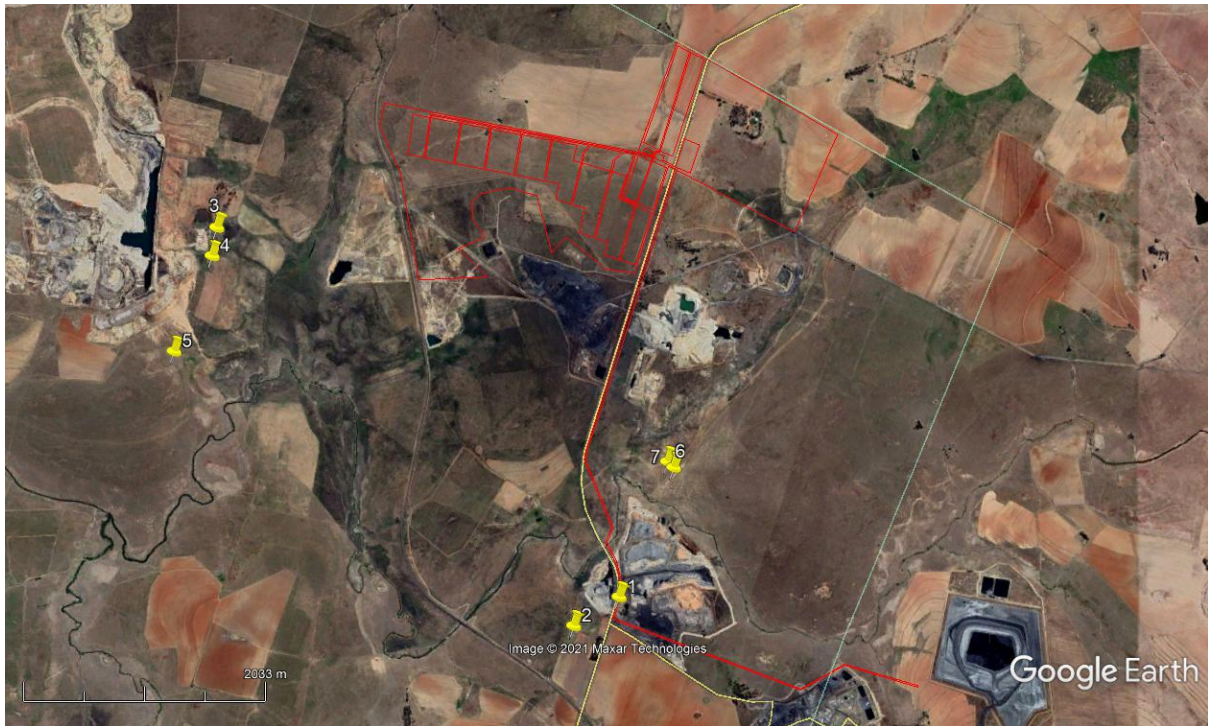


FIGURE 16: KNOWN HISTORIC SITES IN THE SURROUNDING AREA OF THE SURVEYED SITE.

8. SITES IDENTIFIED DURING THE SURVEY

Four sites were identified and is discussed below.

8.1 Site 1 – Graves

This site was already recorded in a previous survey (Van Vollenhoven 2017: 20-21). This is a graveyard of about 30 m long and about 24 m wide in an open field, with a fence surrounding the graves. The fence seems to have be damaged by grazing cattle. It lies 55 m southwest of the proposed power line and might be affected by the development. Six of the graves are orientated east to west and the rest was orientated north to south. The graveyard is overgrown with tall grass (Figure 17-18).

GPS: 26°14'30.60"S 29°32'6.78"E

The headstones are made of granite, natural stone and cement and the grave dressings are made of natural stone, granite, and cement. There are at least 25 graves visible. No graves are 60 years and older, 2 graves are younger than 60 years and 23 unmarked graves were found. The oldest grave belongs to Maria Nolanga Mahlangu 05/04/1983 and the youngest grave is that of Ben July Mahlangu 24/12/1985.

The following legible information was noted:
Linah Zandiwe Mahlangu -/-/
John Mahlangu -/-/



FIGURE 17: VIEW OF FENCED OFF SITE 1.



FIGURE 18: SOME OF THE GRAVES AT SITE 1.

Cultural significance Table: Site 1

<p>A place is considered to be part of the national estate if it has cultural significance because of -</p>	<p>Applicable or not</p>	<p>Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High</p>
<p>Its importance in the community or pattern of South Africa's history</p>	<p>Y</p>	<p>High</p>
<p>Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history</p>	<p>N</p>	
<p>Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage</p>	<p>Y</p>	<p>High</p>
<p>Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects</p>	<p>N</p>	
<p>Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group</p>	<p>N</p>	
<p>Its importance in demonstrating a high degree of creative or technical achievement at a particular period</p>	<p>N</p>	
<p>Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons</p>	<p>Y</p>	<p>High</p>
<p>Its strong or special association with the life or work of a person, group or organization of</p>	<p>N</p>	

importance in the history of South Africa		
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 6(High) x 4
= 24

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority.

Two possibilities exist. The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert in order to comply with heritage protocols. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the development activities.

The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years, only an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Option 1 is recommended for the grave site. Option 2 is thus not recommended, but care should be taken that sites is not impacted directly. The developer however needs to ensure this remains the case.

8.2 Site 2 – Graves

This is a graveyard of about 10 m long and about 4 m wide in a densely wooded area to the west of the farmhouse, with no fence surrounding the graves. The graves have been damaged due to falling trees. It lies 387 m east of the proposed development area and is unlikely to be affected by the development. The graves are orientated east to west. The graveyard is overgrown with pioneer vegetation and trees and the presence of a beehive made documentation problematic (Figure 19-20).

GPS: 26°12'01.65"S 29°32'13.98"E

The headstones are made of granite and cut stone and the grave dressings are made of granite and cast iron. There are approximately 5 graves. One grave is 60 years and older, no graves are younger than 60 years and 4 unmarked graves were found. The oldest grave belongs to Pieter B. Janse van Rensburg. No other information could be found.



FIGURE 19: A GRAVE AT SITE 2.



FIGURE 20: ANOTHER GRAVE AT SITE 2.

Cultural significance Table: Site 2

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of a particular class of South	N	

Africa's natural or cultural places or objects		
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	High
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

$$= 6(\text{High}) \times 2$$

$$= 12$$

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance),

if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority.

Two possibilities exist. The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert in order to comply with heritage protocols. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the development activities.

The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years, only an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Option 1 is recommended for the grave site. Option 2 is thus not recommended, but care should be taken that sites is not impacted directly. The developer however needs to ensure this remains the case.

8.3 Site 3 – Farmhouse

The farmyard is approximately 200 m long and 123 m wide and contains several structures and outbuildings associated with farming activities. The farmhouse is about 30 m long and 26 m wide. The Farmhouse and other structures are currently being used by the mine as offices and storage. The core of this farmhouse could be older than 60 years, but modern alterations have been done to the farmhouse and little remained of that core (Figure 21).

GPS: 26°12'03.43"S 29°32'20.37"E



FIGURE 21: OLD FARMHOUSE INDICATING MANY CHANGES DONE DURING THE RECENT PAST.

Cultural significance Table: Site 3

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	N	
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	Low
Its importance in demonstrating the	Y	Low

principal characteristics of a particular class of South Africa's natural or cultural places or objects		
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	N	
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		Low

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 2(Low) x 2

= 4

The site therefore receives a field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. However, the farmhouse will not be directly affected by the proposed Solar PV Facility and thus may be left as it is.

8.4 Site 4 – Historical Post office

This site was already recorded and mitigated previously (Van Vollenhoven 2017: 21-24). This was a farmyard of approximately 136 m long and 85m wide with four buildings that are older than 60 years of age (Van Vollenhoven 2013b: 21). These buildings were identified as, a house, a wagon house, a shop/post office, and a stable complex (Van Vollenhoven 2013b: 21). Through a mitigation process three of the building were demolished and the post office building was kept and should be preserved as indicated in the previous report (Van Vollenhoven 2013b: 48-49) (Figure 22).

GPS: 26°14'15.90"S 29°31'37.62"E



FIGURE 22: OLD POST OFFICE/SHOP FOUND AT SITE 4.

Cultural significance Table: Site 4

<p>A place is considered to be part of the national estate if it has cultural significance because of -</p>	<p>Applicable or not</p>	<p>Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High</p>
<p>Its importance in the community or pattern of South Africa's history</p>	<p>Y</p>	<p>Medium</p>
<p>Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history</p>	<p>Y</p>	<p>Medium</p>
<p>Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage</p>	<p>Y</p>	<p>Medium</p>
<p>Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects</p>	<p>Y</p>	<p>Medium</p>
<p>Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group</p>	<p>N</p>	
<p>Its importance in demonstrating a high degree of creative or technical achievement at a particular period</p>	<p>N</p>	
<p>Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons</p>	<p>N</p>	
<p>Its strong or special association with the life or work of a person, group or organization of</p>	<p>Y</p>	<p>Medium</p>

importance in the history of South Africa		
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		Medium

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 4(Medium) x 6
= 24

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority. The proposed powerline route passes in proximity to this site. It has been recorded previously (Van Vollenhoven 2013b) and is currently being preserved. During construction, the staff should be made aware of the importance thereof in order to ensure its protection.

9. CONCLUSION AND RECOMMENDATIONS

The survey of the proposed area for the Halfgewonnen Solar PV Facilities was completed successfully. Four sites of heritage significance were identified (Figure 23). None of these were inside of the area where the plant is being planned, but two were in close proximity to the proposed power line. To place it within context these are mapped together with known sites in the vicinity (Figure 24).

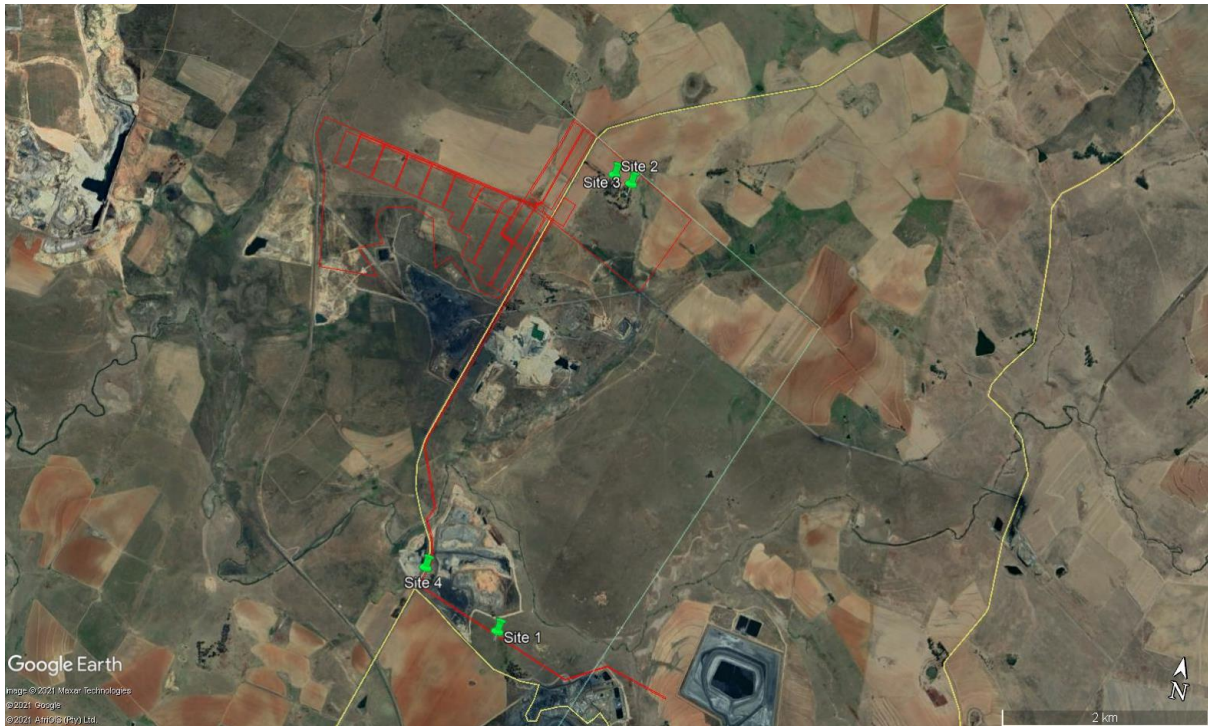


FIGURE 23: SITES IDENTIFIED DURING THE CURRENT SURVEY.

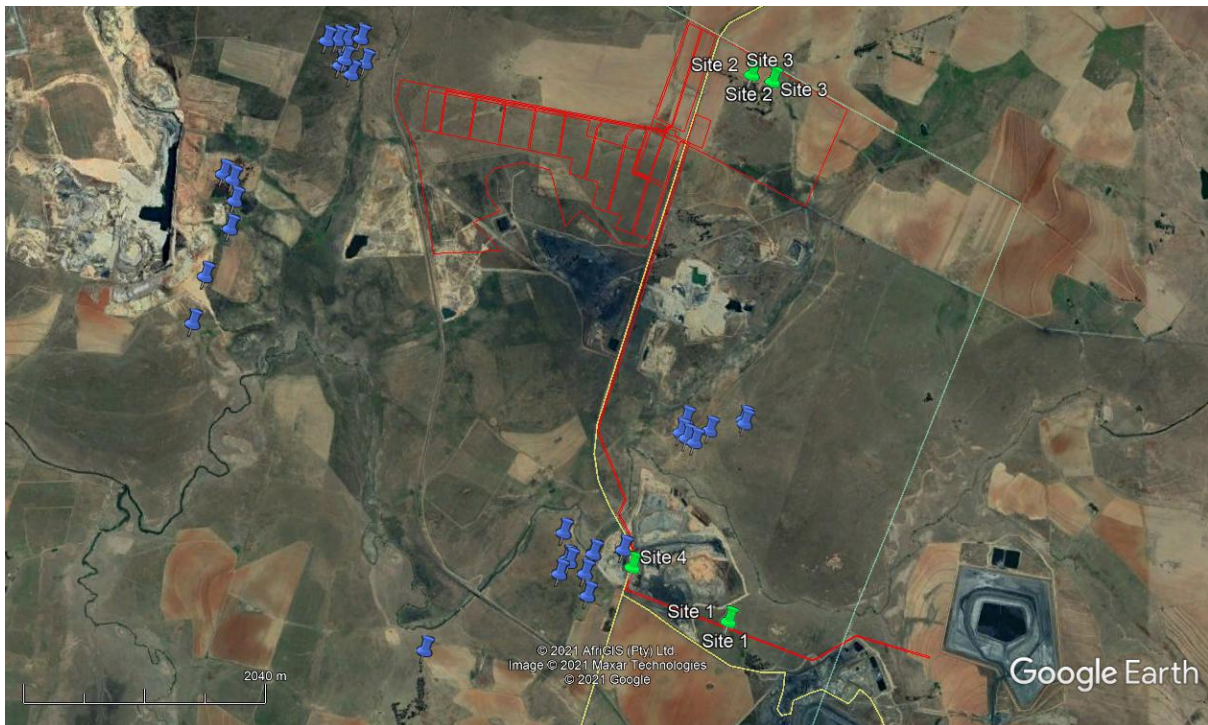


FIGURE 24: INDICATION OF THE LOCATION OF THE IDENTIFIED SITES (GREEN) IN RELATION TO THE PREVIOUSLY IDENTIFIED SITES (BLUE) AND THE PROPOSED DEVELOPMENT.

The following is recommended:

- Sites no. 1 and 2 are graves, the cultural significance of sites is High with a Field rating of Local Grade IIIB. There are two ways of dealing with graves.
 - The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the proposed development.
 - The second option is to exhume and relocate the mortal remains. This usually is done when the graves are in the area to be directly affected by the development. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist are needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy. Since the graveyard is outside of the area of direct development, and already fenced in, it should remain as such.

Option 1 is recommended for the grave sites. Option 2 is thus not recommended, but care should be taken that sites is not impacted directly. The mine/developer however needs to ensure this remains the case.

- The cultural significance of site no. 3 (Farmyard) is Low, and a Field rating is Local Grade IIIC. The description in the phase 1 heritage report is seen as sufficient recording and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
- Site no. 4 is post office/shop and has a Medium cultural significance and receives a field rating of Local Grade IIIB. It means that it should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority. The site had however been mitigated before and is currently preserved. Training should however be given to construction workers in order to ensure they are sensitive to the building.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. It is possible that some sites may only become known later on. In such cases a qualified archaeologist should be called in to investigate the occurrence.

In this regard the following 'Chance find Procedure' should be followed:

- *Upon finding any archaeological or historical material all work at the affected area must cease.*

- The area should be demarcated in order to prevent any further work there until an investigation has been completed.
- An archaeologist should be contacted immediately to provide advice on the matter.
- *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
- *SAHRA's APM Unit may also be notified.*
- If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.
- The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.
- Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.

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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:

- Negligible – The site has no heritage significance, although it may be older than 60 years.
- Low - A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings. A site with minimal importance which is decreased by its bad state of decay.
- Low-Medium - A site of lesser importance, which is increased by a good state of preservation and contextual importance (e.g. a specific community).
- 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.
- Medium-High - A site that has high importance due to its age or uniqueness, but which decreases due to its bad state of decay.
- High - Any site, structure or feature regarded as important because of its age or uniqueness. Also, any important object found within a specific context.
- Very High - A site of exceptional importance due to its age, uniqueness and good state of preservation.

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:

National Grade I significance: The site should be managed as part of the national estate, should be nominated as Grad I site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score above 50.

Provincial Grade II significance: The site should be managed as part of the provincial estate, should be nominated as Grade II site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 41 and 50.

Local Grade IIIA: The site should be included in the heritage register and not be mitigated (high significance), should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 31 and 40.

Local Grade IIIB: The site should be included in the heritage register and may be mitigated (high/ medium significance). Mitigation is subject to a permit application lodged with the relevant heritage authority. Score between 6 and 30.

Local Grade IIIC: The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. Score below 5.

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, palaeontological, 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, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E

HERITAGE/ARCHAEOLOGICAL 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.