Cultural heritage impact assessment for the PROPOSED DEVELOPMENT OF THE TARLTON-WESTGATE SAR MILLSITE 132KV LINE AND SUBSTATION EXTENSION, KRUGERSDORP, MOGALE DISTRICT MUNICIPALITY, GAUTENG PROVINCE

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Report No: 2015/JvS/053
Status: Final
Revision No: 0
Date: August 2015

Prepared for:
Envirolution Consulting
Representative: Mr Thabang Sekele

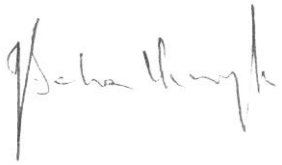
Postal Address: 222 Columbine Avenue, Mondeor, 2091
Tel: 086 44 4499
E-mail: thabang@envirolution.co.za

Prepared by:
J van Schalkwyk (D Litt et Phil), Heritage Consultant
ASAPA Registration No.: 168
Principal Investigator: Iron Age, Colonial Period, Industrial Heritage

Postal Address: 62 Coetzer Avenue, Monument Park, 0181
Mobile: 076 790 6777
Fax: 012 347 7270
E-mail: jvschalkwyk@mweb.co.za

Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
August 2015

EXECUTIVE SUMMARY

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE TARLTON-WESTGATE SAR MILLSITE 132KV LINE AND SUBSTATION EXTENSION, KRUGERSDORP, MOGALE DISTRICT MUNICIPALITY, GAUTENG PROVINCE

Envirolution Consulting (Pty) Ltd has been requested by Eskom to conduct a Basic Assessment for the proposed the Tarlton-Westgate SAR Millsite 132 kV line and the extension of the existing SAR Millsite substation in Krugersdorp, Gauteng Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

The cultural landscape qualities of the region essentially consist of an urban/industrial setup. In this the human occupation is made up of a limited pre-colonial element consisting of Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component. This was soon followed by the development of urban centres, which not only served the surrounding farming communities, but also the rapidly expanding gold mining activities that developed in the region.

- As no site, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the proposed mitigation measures. We also request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.

J A van Schalkwyk
Heritage Consultant
August 2015

TECHNICAL SUMMARY

Property details						
Province	Gauteng					
Magisterial district	Randfontein; Krugersdorp					
District municipality	West Rand District Municipality					
Topo-cadastral map	2627BA, 2627BB					
Closest town	Krugersdorp					
Farm name	Luipaardsvlei 246IQ					
Coordinates	End points (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	S 26.12905	E 27.73727	2	S 26.11416	E 27.71989

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	No
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

Development	
Description	Construction of a 132kV electricity line
Project name	Tarlton-Westgate SAR Millsite 132kV Line

Land use	
Previous land use	Urban/Industrial
Current land use	Urban/Industrial

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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE TARLTON-WESTGATE SAR MILLSITE 132KV LINE AND SUBSTATION EXTENSION, KRUGERSDORP, MOGALE DISTRICT MUNICIPALITY, GAUTENG PROVINCE

1. INTRODUCTION

Envirolution Consulting (Pty) Ltd has been requested by Eskom to conduct a Basic Assessment for the proposed the Tarlton-Westgate SAR Millsite 132 kV line and the extension of the existing SAR Millsite substation in Krugersdorp, Gauteng Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

2.1 **Scope of work**

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the electricity power line and substation.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied; and
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources; and
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 **Limitations**

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that is does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

3. HERITAGE RESOURCES

3.1 **The National Estate**

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
    - ancestral graves;
    - royal graves and graves of traditional leaders;
    - graves of victims of conflict;
    - graves of individuals designated by the Minister by notice in the Gazette;
    - historical graves and cemeteries; and
    - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
    - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
    - objects to which oral traditions are attached or which are associated with living heritage;
    - ethnographic art and objects;
    - military objects;
    - objects of decorative or fine art;
    - objects of scientific or technological interest; and

- books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 **Cultural significance**

In the NHRA, Section 2 (vi), it is stated that ‘‘cultural significance’’ means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the 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;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 **Extent of the Study**

This survey and impact assessment covers the area presented in Section 5 and as illustrated in Figures 3 and 4.

4.2 **Methodology**

4.2.1 *Preliminary investigation*

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted.

- Information of a very general nature was obtained from these sources.

4.2.1.2 Data bases
The *Heritage Atlas Database,* the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in adjacent areas.

4.2.1.3 Other sources
Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

4.2.2 *Field survey*

The area that had to be investigated was identified by **Envirolution Consulting** by means of maps. The site was visited on 30 August 2015. As this is a linear development, the site was surveyed by following the proposed alignment as close as possible (see Fig. 1).

The *kml* file indicating the alignment of the proposed power line was loaded onto a Nexus 7 tablet. This was used in Google Earth during the field survey to access the area. Overall archaeological visibility was good, except for the areas where the mining activities take place (see Fig. 3).

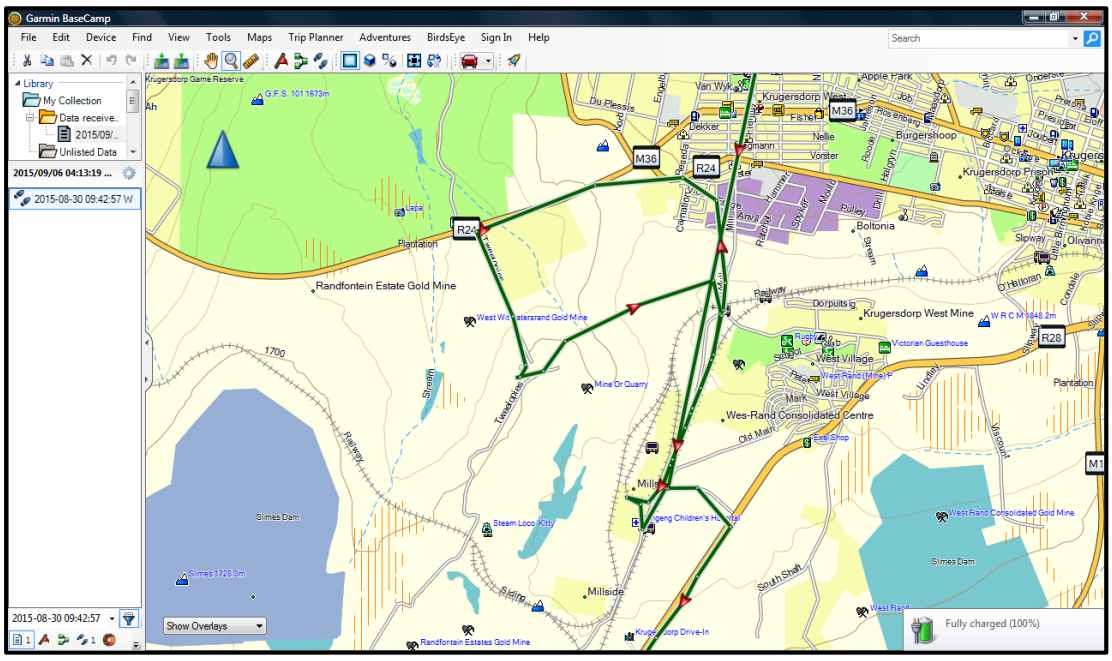

Fig. 1. Track log of the field survey.

4.2.3 *Documentation*

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

5. PROJECT LOCATION AND DESCRIPTION

5.1 **Site location**

The proposed project is to be implemented in the area southwest of Krugersdorp and northeast of Randfontein in the Mogale City district municipality, Gauteng Province (Fig. 2). For more information, please see the Technical Summary presented above (p. iv).

5.2 **Project description**

The substation footprint will be expanded from 25 m x 60 m to 100 x 100 m (1 hectare) while the substation capacity network will increase from 44 kV to 132 kV. The preferred powerline is approximately 884 m in length. Currently, two alignments (one preferred and one alternative) connecting to the existing SAR Millsite substation have been proposed as part of this development. The preferred route (green) will extend from the SAR Millsite substation until it reaches the existing 132 kV Westgate/Tarlton powerline to the south. The alternative overhead powerline route (blue) is approximately 4.1 km in length and will extend from the SAR Millsite substation to go around the existing mine and stretch across veld land in Krugersdorp West and over an unnamed river to eventually join the existing Tarlton/Westgate powerline to the north west of the SAR Millsite substation about 2.3 km away."

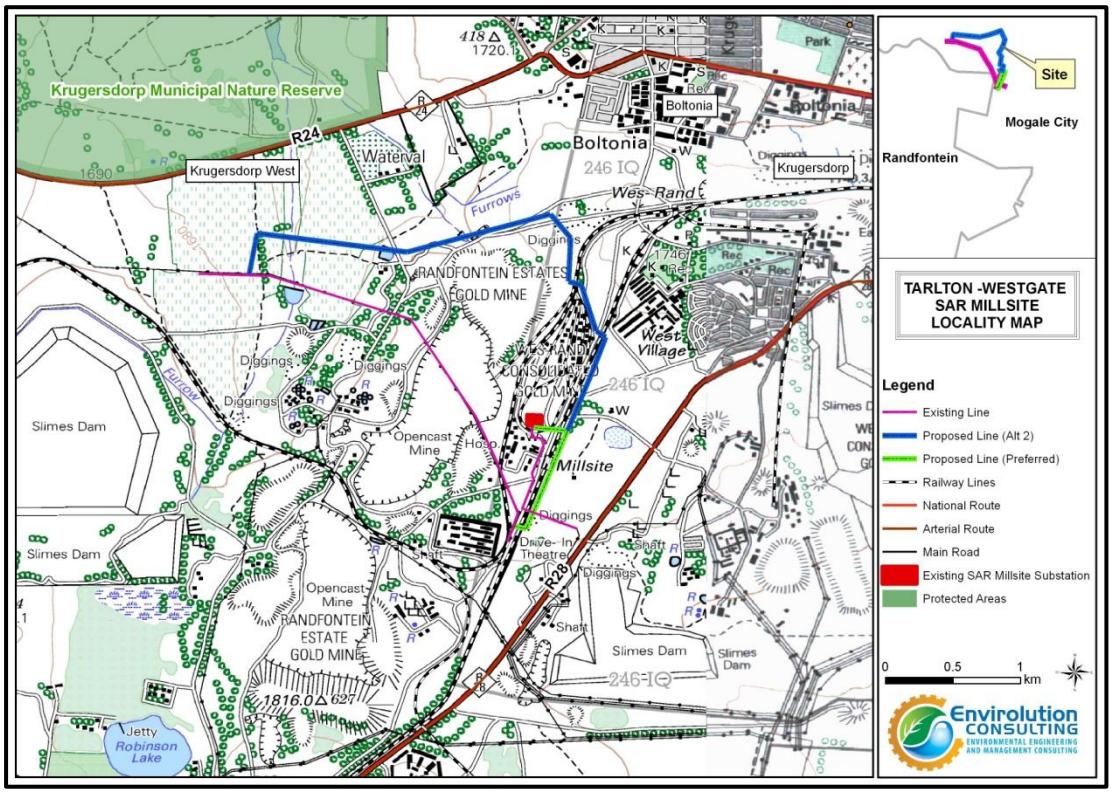

Fig. 2. Layout of the proposed development.

Fig. 3. Aerial view of the proposed development.

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 **Site description**

The geology is made up of granite. The topography of the area is described as strongly undulating plains. The original vegetation is classified a Rocky Highveld Grassland. However, very little of this original vegetation has remained as it was replaced first by farming activities and later by mining developments.

Large sections of the area are covered by former and current mining and quarrying activities (Fig. 3). All of this would have had a negative impact on any sites, features or objects of cultural significance that might have occurred here in the past.

Looking north

Looking north

Looking south

Looking north

Fig. 4. Views over the study area.

6.2 **Regional overview**

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 1 for more information.

The cultural landscape qualities of the region essentially consist of an urban/industrial setup. In this the human occupation is made up of a limited pre-colonial element consisting of Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component. This was soon followed by the development of urban centres, which not only served the surrounding farming communities, but also the rapidly expanding gold mining activities that developed in the region.

6.2.1 *Stone Age*

The larger Mogale City region has been inhabited by different hominids since early Pliocene times, but it was only from about 2.5 million years ago that they started to produce stone tools, effectively beginning the Early Stone Age (ESA). Tools dating to this period are mostly, although not exclusively, found in the vicinity of watercourses – only one site containing in situ assemblage of ESA material is known from the area, namely Sterkfontein (Kuman 2003). The oldest of these tools, belong to the Olduwan industry and are known as choppers. They are crudely produced from large pebbles found in river beds. Later, *Homo erectus* (now called *Homo ergaster*) and early *Homo sapiens* people made tools shaped on both sides, called bifaces. This is one of the longest-lasting technologies the world has known, spanning a period of more than 1,5 million years.

During Middle Stone Age (MSA) times (c. 150 000 - 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is identified as a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology (Thackeray 1992). Open sites were still preferred near watercourses. These people were adept at exploiting the huge herds of animals that passed through the area on their seasonal migration.

Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. Also, for the first time we now get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA. A number of sites dating to this period have been studied by Wadley (1987) in the Magaliesberg area. In the case of the LSA people, they have also left us with a rich legacy of rock art, which is an expression of their complex social and spiritual believes. Some rock engravings occur near Hekpoort.

LSA people preferred, though not exclusively, to occupy rock shelters and caves, of which a few smaller ones are know from the WHS area. It is this type of sealed context that makes it possible for us to learn much more about them than is the case with earlier periods.

6.2.2 *Iron Age*

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom, dating to AD 470, located south of Hartebeespoort Dam area. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area (Huffman 1993).

The occupation of the region by Iron Age communities did not start much before the 1500s. Due to climatic fluctuations, bringing about colder and drier conditions, people were forced to avoid this area. Following a dry spell that ended just before the turn of the millennium the climate became better again until about AD 1300. This coincided with the arrival of the ancestors of the present day Sotho-, Tswana- and Nguni-speakers in southern Africa, forcing them to avoid large sections of the interior.

By approximately AD 1500 the climate again changed for the better and we found that early Sotho-Tswana speakers moved into areas formerly avoided. The climate become warmer and

wetter, creating conditions that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand and the Free State. At the same time, new cereal crops, e.g. maize, was introduced from Maputo and grown extensively. This increase in food production probably led to increased populations in coastal area as well as the central highveld interior by the beginning of the 19th century.

This wet period came to an end sometime between 1800 and 1820 by a major drought lasting 3 to 5 years. The drought must have caused an agricultural collapse on a large, subcontinent scale.

This was also a period of great military tension. Qriqua and Korana raiders were active in the northern Cape and Orange Free State by about 1790. The Xhosa were raiding across the Orange River about 1805. Military pressure from Zululand spilled onto the highveld by at least 1821. Various marauding groups of displaced Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The Boers trekked into this area in the 1830s.

Recent research has indicated that some of the stone walled sites, e.g. those at Doornspruit, appear similar to Zulu settlements in plan and can most likely be associated with Mzilikazi and the Ndebele (Huffman 2004).

As a result of this troubled period, Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees they built their settlements in stone. From the air, these homesteads and towns are easily recognised and it is also possible to determine variations in smaller detail.

6.2.3 *Historic period*

Originally the trekkers who settled in the area occupied themselves with farming. After the discovery of gold on the Witwatersrand, exploration also started in this area, e.g. the well-known Harry and Fred Struben were exploring in the Sterkfontein area during 1884. One of the oldest gold mines was established in 1874 at Blaauwbank and another in 1891 on the farm Kromdraai. By this time the fossil-bearing caves were already known and lime quarrying started about 1895. However, it was more than forty years later, in 1936, that Robert Broom first identified the remains of a number of fossil hominids.

During the Anglo-Boer War, a number of skimishes took place in the area. The biggest battle was in the vicinity of Krugersdorp at Nooitgedacht (Magaliesberg range) on 13 December 1900. Krugersdorp was captured in June 1900 by Gen. Hunter.

The town of Randfontein was laid out in 1890 on the farm with the same name, after the discovery of gold in the region. It became a municipality in 1929. The Randfontein Estates Gold Mine has the largest stamp-mill in the world (Raper 2004).

6.3 **Identified sites**

The following cultural heritage resources were identified in the study area (Fig. 5):

6.3.1 *Stone Age*

- No sites, features or objects dating to the Stone Age were identified in the study area.

6.3 2 *Iron Age*

- No sites, features or objects dating to the Iron Age were identified in the study area.

6.3.3 *Historic period*

- No sites, features or objects dating to the historic period were identified in the study area.

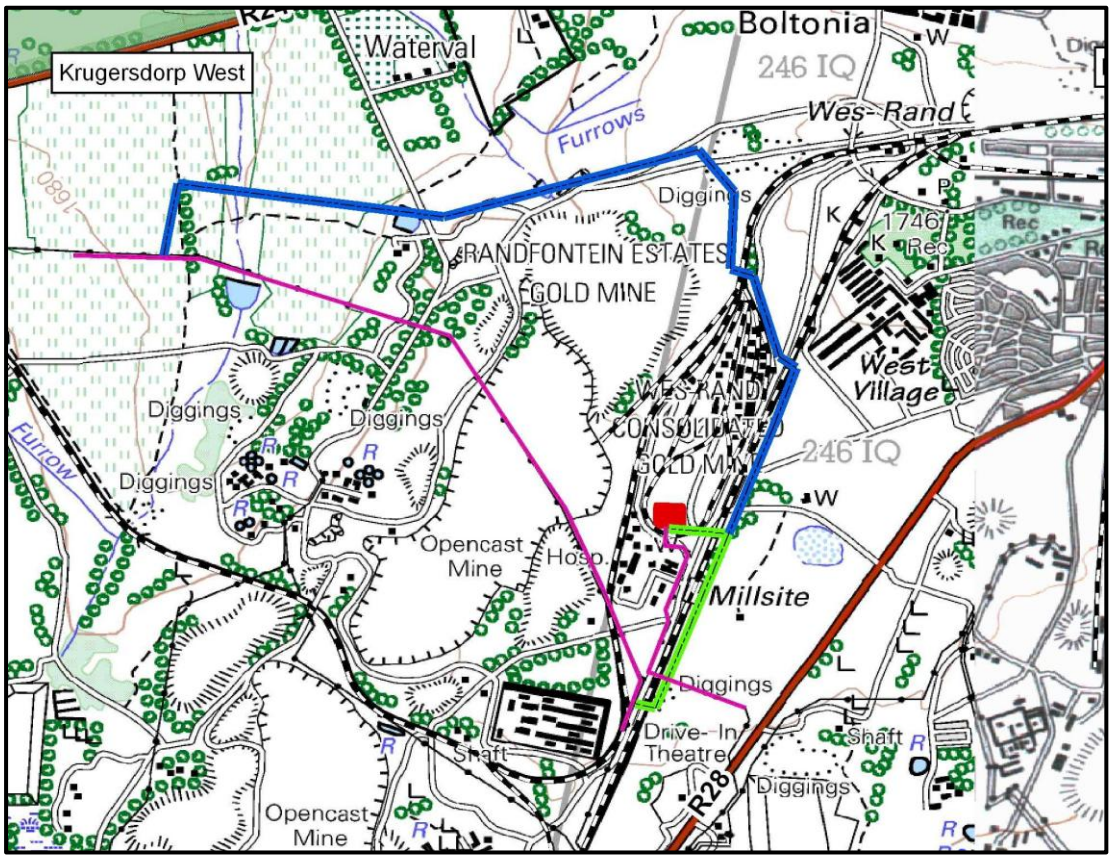

Fig. 5. Identified sites in relation to the proposed development.

7. SITE SIGNIFICANCE AND ASSESSMENT

7.1 **Heritage assessment criteria and grading**

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I**: Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II**: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III**: Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II

and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

7.2 **Statement of significance**

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 1. Summary of identified heritage resources in the study area.

Identified heritage resources	
Category, according to NHRA	*Identification/Description*
Formal protections (NHRA)	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
General protections (NHRA)	
structures older than 60 years (Section 34)	None
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
Other	
Any other heritage resources (geological)	None

7.3 **Impact assessment**

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

- As no site, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.

8. CONCLUSIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is planned to construct an electricity power line and substation.

The cultural landscape qualities of the region essentially consist of an urban/industrial setup. In this the human occupation is made up of a limited pre-colonial element consisting of Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component. This was soon followed by the development of urban centres, which not only served the surrounding farming communities, but also the rapidly expanding gold mining activities that developed in the region.

- As no site, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the proposed mitigation measures. We also request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.

9. REFERENCES

9.1 **Data bases**

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa

9.2 **Literature**

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9.3 **Maps and aerial photographs**

1: 50 000 Topocadastral maps: 2627BA, 2627BB
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value			
Is it important in the community, or pattern of history			
Does it have strong or special association with the life or work of a person, group or organisation of importance in history			
Does it have significance relating to the history of slavery			
2. Aesthetic value			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
3. Scientific value			
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage			
Is it important in demonstrating a high degree of creative or technical achievement at a particular period			
4. Social value			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
5. Rarity			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
6. Representivity			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class			
Importance in demonstrating the principal characteristics 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.			
7. Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific community			
8. Significance rating of feature			
1. Low			
2. Medium			
3. High			

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(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 offices or museum, which must immediately notify such heritage resources authority.

(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 in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial 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, 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 equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

APPENDIX 3. SPECIALIST COMPETENCY

Johan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.