APELSER ARCHAEOLOGICAL CONSULTING
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REPORT ON A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF 2 NEW KILNS AS PART OF COROBRIK DRIEFONTEIN'S EXPANSION ON PORTIONS 23 & 27 (PORTIONS OF PORTION 22) OF THE FARM DRIEFONTEIN 355IQ, NEAR CARLETONVILLE, GAUTENG

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REPORT: **APAC018/05**

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DISCLAIMER:

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

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

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd, on behalf of Corobrik Driefontein, to undertake a Phase 1 AIA for the proposed development of two new kilns as part of their expansion at the Corobrik Driefontein Factory near Carletonville in Gauteng. The study area is situated on Portions 23 & 27 (Portions of Portion 22) of the farm Driefontein 355IQ.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known sites on the specific land parcel, and none were identified in the study area during the assessment. The report will discuss the results of the desktop and field assessment and provide recommendations on the way forward at the end of the document.

From an Archaeological point of view the development actions can continue, taking into consideration the mitigation measures proposed in the report.

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1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd, on behalf of Corobrik Driefontein, to undertake a Phase 1 AIA for the proposed development of two new kilns as part of their expansion at the Corobrik Driefontein Factory near Carletonville in Gauteng. The study area is situated on Portions 23 & 27 (Portions of Portion 22) of the farm Driefontein 355IQ.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known sites on the specific land parcel, and none were identified in the study area during the assessment.

The client indicated the location and boundaries of the Project Area, and the assessment focused on this area.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

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

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

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

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

5. ***Review applicable legislative requirements;***

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

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 includes the following:

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance
f. Sites of Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, 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. An HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
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 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 that assists in the detection or recovery of metals or archaeological and palaeontological 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 of 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.

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

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

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

3.2 The National Environmental Management Act

This act 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 are 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.

4. METHODOLOGY

4.1 Survey of literature

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

4.2 Field survey

The field assessment section of the study was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects was determined by means of a Global Positioning System (GPS), while detailed photographs were also taken where possible.

4.3 Oral histories

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

4.4 Documentation

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

5. DESCRIPTION OF THE AREA

The study area is situated on Portions 23 & 27 (Portions of Portion 22) of the farm Driefontein 355IQ and is located directly south of Corobrik's Driefontein Factory operations. The construction of two new kilns as part of their expansion is proposed on the study site.

The topography of the area is flat and open mostly, with little tree cover. Grass and shrub cover on the largest section was fairly dense but visibility during the survey was good. A portion of the study area (the Clay Stockpile Area) has recently been graded/cleared and soil heaps from this is also present in the area. These heaps were assessed for the presence of possible archaeological or historical artifacts and material. The study area was also used for agricultural purposes (ploughing/crop growing) in the recent past and as a result has been disturbed to a large degree. If there was any sites, features or material of archaeological and/or historical nature located here in the past it would have been disturbed or destroyed as a result.

Fig.1: General location of study area (Google Earth 2018).

Fig.2: Closer view of study area (Google Earth 2018).

Fig.3: Partial view of study area. Note the flat and open nature.

Fig.4: A view of the Clay Stockpile area.

Fig.5: Another view of the open disturbed area with soil heaps.

Fig.6: A view of a section of the area with the current Corobrik Driefontein Factory visible.

Fig.7: A portion of the bordering land showing the ploughed nature of the area.

Fig.8: Another view showing the disturbed & open nature of the area, as well as the Clay Stockpile Area.

Fig.9: Further view of the study area.

Fig.10: View of old Quarry that is under rehabilitation.

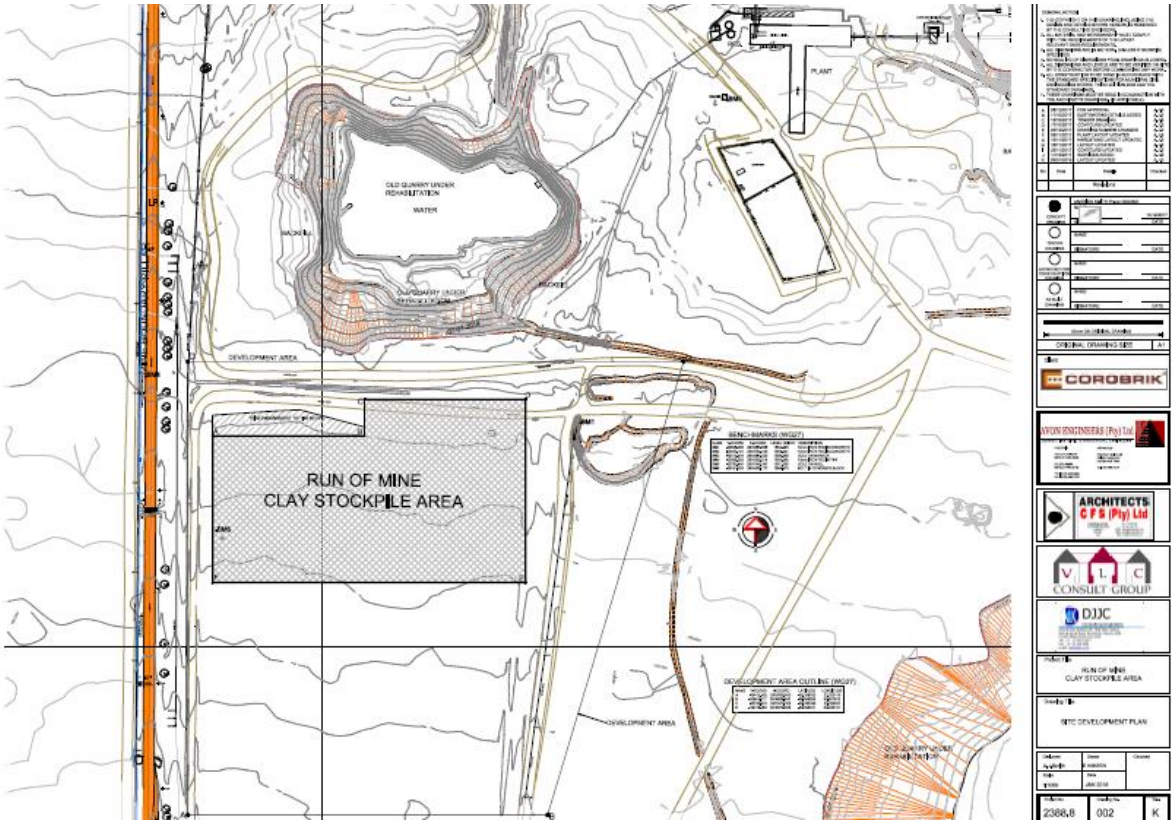

Fig.11: Site Development Plan (Provided Corobrik).

6. DISCUSSION

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

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

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

No known Stone Age sites or artifacts are present in the area. The closest well-known Stone Age sites are those of Aasvoelkop, Melvillekoppies, Primrose & Linksfield (Bergh 1999: 4). Rock engraving sites are also known to occur north-east of Carletonville (Bergh 1999: 5).

No Stone Age sites or material were identified in the study area during the January 2018 assessment.

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

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

Huffman (2007: xiii) indicates that a Middle Iron Age should be included. His dates, which are 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 Early Iron Age sites are known in the larger geographical area, while Later Iron Age sites do occur. This includes sites at Melvillekoppies & around the Carletonville area (Bergh 1999:7) and Klipriviersberg (Huffman 2007: 171). De Jong mentions the occurrence of Late Iron Age stone-walled settlement sites close to Fochville and the Westonaria area (De Jong 2010).

No Iron Age occurrences were identified in the study area during the assessment.

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. The first Europeans to move through and into the area was the group of Cornwallis Harris in 1836 (Bergh 1999: 13). These groups were closely followed by the Voortrekkers after 1840 (Bergh 1999: 14-15).

Information from www.wikipedia.org.za

Merafong City Local Municipality, in which the study area is located, is a local municipality in the West Rand District Municipality, Gauteng, South Africa. Its boundaries enclose some of the richest gold mines in the world. It is situated about 65 km from Johannesburg and is serviced by a number of major roads, including the N12 from Johannesburg to Cape Town and the N14 (the main road between Gauteng and Mafikeng via Ventersdorp).

Formerly a cross-border municipality, the entire municipality was transferred to the North West Province following the abolition of cross-border municipalities by an amendment to the South African Constitution in 2005. The municipality was a part of the North West Province from 2005 to 2009, when it was reincorporated into the Gauteng Province by another amendment to the Constitution, following often violent protests in the township of Khutsong.

Merafong's historical development is closely knit with the discovery of rich gold deposits in the early 1930s. Fochville is the oldest town in the region, and was declared a town in 1951.

The town Carletonville was named after Guy Carleton Jones, an engineer from the Gold Fields Ltd mining company, who played a prominent role in the discovery of the West Wits gold field, of which Carletonville forms a part. The mining company decided in November 1946 to establish the town. Carletonville was proclaimed in 1948 and attained Town Council Status on 1 July 1959. Wedela is situated in between Western Deep Levels and Elandsrand mine. The town's name is derived from the prefixes of the two mines: the "Wed-" from Western Deep Levels and the "-ela" from Elandsrand. Wedela was established as a mining village in December 1978 by Harry Oppenheimer, and municipal status was granted to the town on 1 January 1990.

Attached to Fochville and Carletonville are the towns of Khutsong, Kokosi, Greenspark, and Blybank.

The oldest map obtained from the Chief Surveyor General's database (www.csg.dla.gov.za) for the farm Driefontein 355IQ, dates to 1903 (Document 100BTF01). It shows that the farm was then numbered as No.614 and was situated in the Potchefstroom (Oberholzer) District and Gatsrand Ward of the Zuid-Afrikaansche Republiek (ZAR). It was surveyed for J.C.Dreyer, J.G.Oosthuisen, T.F.Dreyer, C.L. van den Berg, J.J.J.Steyn & A.F.Meyer in July 1899. No archaeological or historical sites or features could be identified on this map however.

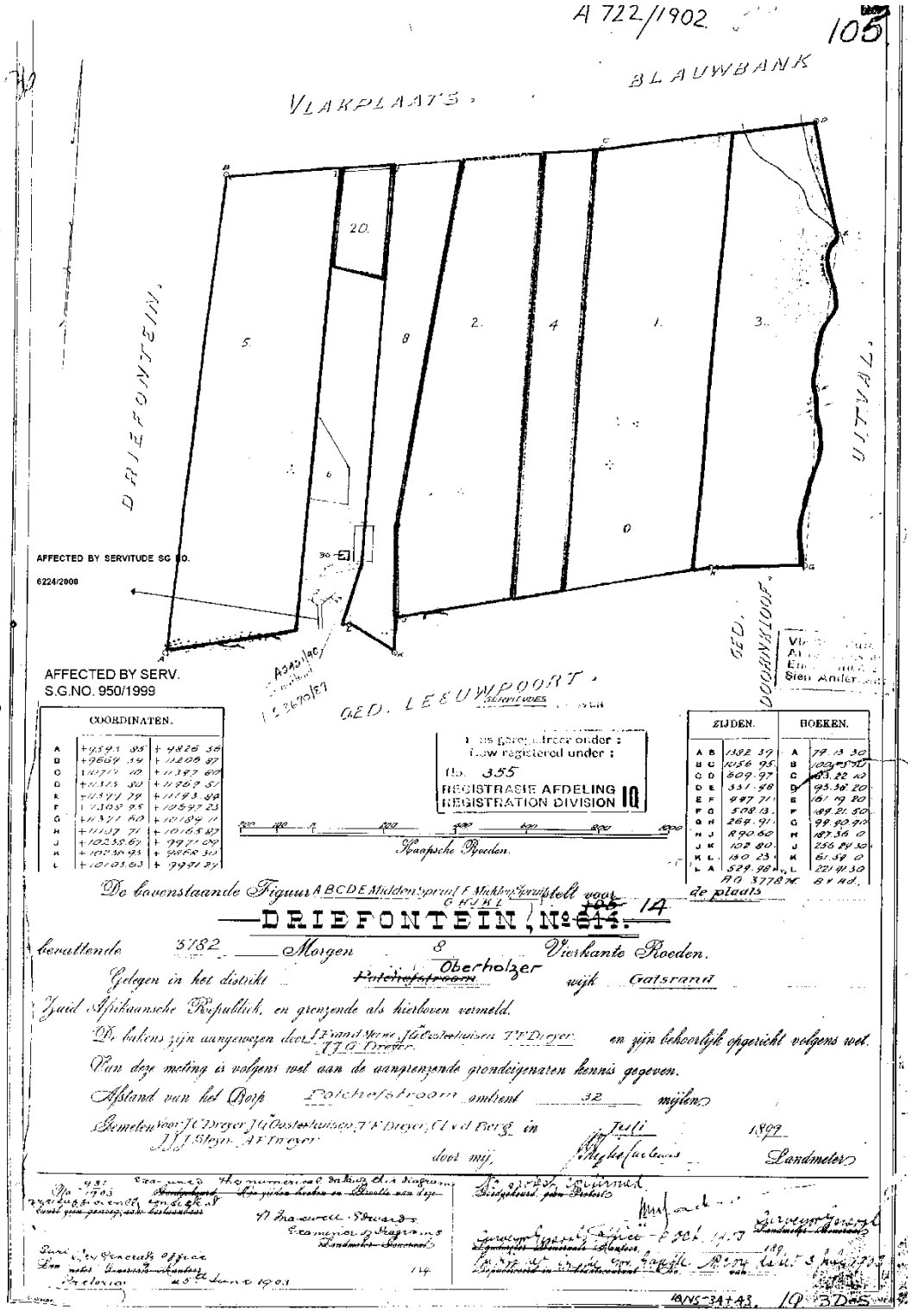

Fig.12: 1903 Map of Driefontein 355IQ (www.csg.dla.gov.za).

Results of the January 2018 Fieldwork

No archaeological and/or historical sites, features or material were identified in the study area during the assessment. The site has been fairly extensively disturbed in the recent past by

both agricultural activities and recent developments by Corobrik and as result if any did exist here in the past it would have been heavily disturbed or even destroyed.

It should be noted that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.

7. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd, on behalf of Corobrik Driefontein, to undertake a Phase 1 AIA for the proposed development of two new kilns as part of their expansion at the Corobrik Driefontein Factory near Carletonville in Gauteng. The study area is situated on Portions 23 & 27 (Portions of Portion 22) of the farm Driefontein 355IQ.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known sites on the specific land parcel, and none were identified in the study area during the assessment.

Finally, it should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

From an Archaeological point of view the development should therefore be allowed to continue, taking cognizance of the above recommendations.

8. REFERENCES

General & Closer view of study area location: Google Earth 2018.

Site Development Plan: courtesy Corobrik.

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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.

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

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

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

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

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

APPENDIX C
SIGNIFICANCE AND FIELD RATING:

Cultural significance:

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

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

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

Heritage significance:

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

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

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

Field ratings:

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

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

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

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

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

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

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

APPENDIX D
PROTECTION OF HERITAGE RESOURCES:

Formal protection:

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