



## **HERITAGE IMPACT ASSESSMENT**

**FOR THE PROPOSED IMPROVEMENTS TO THE EXISTING WASTE  
RETICULATION SYSTEM AT CAMDEN POWER STATION IN  
ERMELO, MPUMALANGA PROVINCE**



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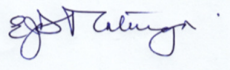

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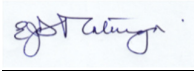
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## **DECLARATION OF INDEPENDENCE**

Green Gold Group is an independent consultancy: I hereby declare that I have no interest, be it business, financial, personal or other vested interest in the undertaking of the proposed activity, other than fair remuneration for work performed, in terms the National Heritage Resources Act (No 25 of 1999).

## **DISCLAIMER**

All possible care was taken to identify and document heritage resources during the survey in accordance with best practices in archaeology and heritage management. However, it is always possible that some hidden or subterranean sites are overlooked during a survey. Green Gold will not be held liable for such oversights and additional costs thereof.



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## **EXECUTIVE SUMMARY**

A Heritage Impact Assessment was undertaken in terms of Section 38 of the National Heritage Resources Act (25 of 1999) (NHRA) to screen an area at Camden Power Station for the proposed installation of a sewer pump station and a surface pipeline for the transportation of waste material to an existing treatment plant. The following is a summary of the findings of the heritage survey:

### *1. Stone Age*

No sites or material dating to the Stone Age were found.

### *2. Iron Age*

No sites, objects or features dating to the Iron Age were found.

### *3. Historical Period*

No sites, objects or features dating to the historical period were found.

### *4. Built Environment and cultural landscape significance*

The Camden Power Station and other associated built elements are less than 60 years old, hence below the threshold of recognition in terms of the heritage Act as industrial heritage of significance. The six cooling towers are iconic structures dominating the landscape and skyline. They represent coal power generating technology dating back from the late 19<sup>th</sup> century through to the late 20<sup>th</sup> century. Such industrial landscape may be treasured in the future. The impact of the proposed waste pipe installations on the visual character of this cultural landscape is considered to be negligible.

An old disused conveyor belt with a barrel roof cover for the transportation of coal was noted. This structure is of no heritage significance considering that it is, as with the other structures at the power plant, less than 60 years old. Furthermore, it will not be affected by the proposed installations.

### *5. Significance ranking of findings*

The significance ranking (with a colour scheme) refers to perceived impacts and risk of the proposed development.

	<b>RANKING</b>	<b>SIGNIFICANCE</b>	<b>Occurrence</b>
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	0
3	Medium B	Sites exhibiting archaeological and historical characteristics of the area, but do not warrant further action after they have been documented.	0
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>0</b>

#### *6. Recommendations and conclusions*

No archaeologically or historically significant sites that are protected in terms of the NHRA were found in the footprint of the proposed development. In light of that, we recommend that the project goes ahead. It is a standard procedure that if heritage resources were to be found during the construction phase, the relevant heritage authorities (SAHRA and/or the Provincial Heritage Resources Authority must be notified immediately and a heritage expert called to attend.

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## ABBREVIATIONS

EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Later Iron Age
PHRA	Provincial Heritage Resources Authority
MSA	Middle Stone Age

NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency
BP	Before Present



## GLOSSARY

**Archaeology:** The study of the humans' past through their material remains.

**Archaeological material:** remains resulting from human activity left as evidence of their presence which, as proscribed by South African heritage legislation, are older than 100 years, which are in the form of artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces and structures.

**Artefact/ Ecofact:** Any movable object that has been used, modified or manufactured by humans.

**Assemblage:** A group of artefacts recurring together at a particular time and place, and representing the sum of human activities.

**Catalogue:** An inventory or register of artefacts and/or sites.

**Conservation:** All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

**Culture:** A contested term, "culture" could minimally be defined as the learned and shared things that people have, do and think.

**Cultural Heritage Resources:** refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

**Cultural landscape:** "the combined works of nature and man" and demonstrate "the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external".

**Cultural Significance:** is the aesthetic, historical, scientific and social value for past, present and future generations.

**Early Stone Age:** Predominantly the Oldowan and Acheulean hand axe industry complex dating to  $\pm 2.6$  Myrs – 250 000 yrs. before present.

**Early Iron Age:** Refers cultural period of the first millennium AD associated with the introduction of metallurgy and agriculture in Eastern and Southern Africa

**Later Iron Age:** Refers to the period after 1000AD marked by increasing social and political complexity. Evidence of economic wealth through trade and livestock keeping especially cattle

**Excavation:** A method in which archaeological materials are extracted, involving systematic recovery of archaeological remains and their context by removing soil and any other material covering them.

**Grave:** a place of burial which include materials such as tombstone or other marker such as cross etc.

**Historic material:** means remains resulting from human activities, which are younger than 100 years and no longer in use, which include artefacts, human remains and artificial features and structures.

**Intangible heritage:** Something of cultural value that is not primarily expressed in a material form e.g. rituals, knowledge systems, oral traditions, transmitted between people and within communities.

**Historical archaeology:** the study of material remains from both the remote and recent past in relationship to documentary history and the stratigraphy of the ground in which they are found; or archaeological investigation on sites of the historic period. In South Africa it refers to the immediate pre-colonial period, contact with European colonists and the modern industrial period.

**In situ material:** means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.

**Later Iron Age:** The period from the beginning of the 2<sup>nd</sup> millennium AD marked by the emergence if complex state society and long-distance trade contacts.

**Late Stone Age:** The period from  $\pm 30\ 000$ -yr. to the introduction of metals and farming technology

**Middle Stone Age:** Various stone using industries dating from  $\pm 250\ 000$  yr. - 30 000 yrs. ago

**Monuments:** architectural works, buildings, sites, sculpture, elements or structures of an archaeological nature, inscriptions, cave dwellings which are outstanding from the point of view of history, art and science.

**Place:** means site, area, building or other work, group of buildings or other works, together with pertinent contents, surroundings and historical and archaeological deposits.

**Preservation:** means protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary.

**Sherd:** ceramic fragment.

**Significance grading:** Grading of sites or artefacts according to their historical, cultural or scientific value.

**Site:** a spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

**Site Recoding Template:** Site recording form.

## **1. INTRODUCTION**

This Heritage Impact Assessment (HIA) report has been prepared to fulfil the requirements of Section 38 of the National Heritage Resources Act (25 of 1999) (NHRA) for the proposed installation of a sewer pump station and sewer pipeline at Camden Power Station (Remainder of the Farm Camden Power Station 329 IT) on the outskirts of Ermelo in Mpumalanga Province. An HIA is based on an understanding of heritage and its significance, and if heritage is found in the area of the proposed development, mitigation options are considered and recommendations made on a conservation strategy that best protects the resource(s) within the context of the proposed development.

### **1.1. Location and Physical Setting**

Camden Power Station is located 10km from Ermelo on the side of the N2 highway from Ermelo to Mkhondo (formerly Piet Retief) (Lat: 26°37'3.80"S, Long: 30°05'46.90"E). The city of Ermelo is the key geographical reference point (Figure 1). Ermelo is situated on the eastern Highveld, the eastern part of the plateau which rises from the Drakensberg escarpment. The area is characterised by rolling plains covered with Savana grass. Woodland cover tended to be confined to sheltered river valleys. However, since the beginning of the industrial age commercial plantation of pine and wattle has been established east of Ermelo in a large swathe of territory extending to the border with Swaziland. Plantation of exotic trees is also quite common on other commercial farms around Ermelo. The rolling plains hold large reserves of coal beneath them, which has been mined to supply power stations in the province including Camden.

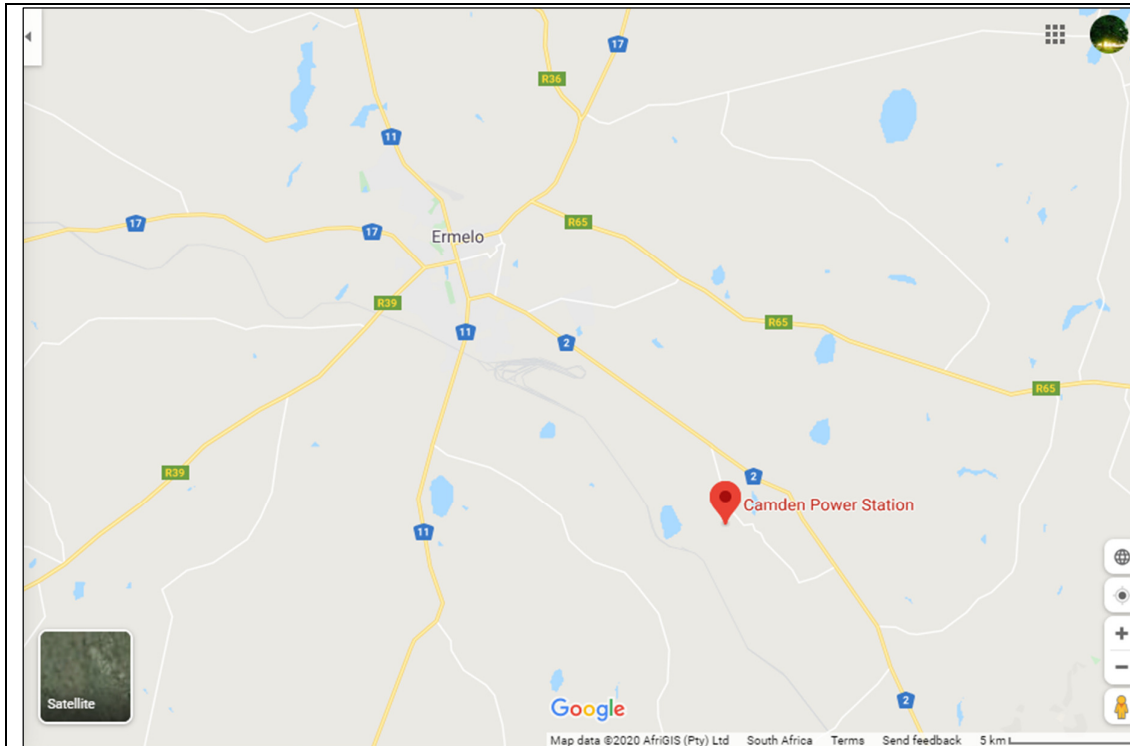


Figure 1: Google Earth map shows the location of Camden Power Station near Ermelo.

## 2. NATURE OF PROPOSED DEVELOPMENT

Eskom intends to construct a sewer pump station with a footprint of 6m<sup>2</sup>, underground sewage sump covering 55m<sup>2</sup>, and an 800m long sewage pipeline connecting with an existing sewage treatment plant. The proposed works exceed the threshold for a Heritage Impact Assessment as prescribed in various sections of the NHRA. The components of the work are as follows:

- (i) Decommissioning of septic tanks that are located near the main entrance gate (Lat: 26°36'59.26"S Long: 30°5'51.96") (Figure 2)
- (ii) Installation of a sewer pump station with a footprint of 6m<sup>2</sup>, install an underground sewage sump covering 55m<sup>2</sup> 250m north-east of the cooling towers (Figures 3 - 5).
- (iii) Construction of an 800m long sewage pipeline connecting the pump station with an existing sewage treatment plant.
- (iv) The pipeline will be laid underground in a short section c. 50m long under-passing an unpaved access road and cross over a concrete-lined V-shaped storm water drain.



Figure 2: Existing underground septic tanks to be decommissioned.



Figure 3: Site of installation of sewer pump in the foreground. Surface piping will be laid in the direction of the left end of the artificial terrace in the background.



Figure 4: Proposed route of the surface piping through an open space between pylons and passing of the left side of an artificial terrace in the foreground.



Figure 5: Proposed placement of sewer pump and course of surface transportation pipe.

### 3. LEGAL FRAMEWORK

A Heritage Impact Assessment is governed by the NHRA and of particular relevant application are Sections 38, 34, 35, and 36. In this instance it is necessary to provide details of the legal provisions.

#### 3.1. Heritage Impact Assessment

Section 38 of the NHRA specifies the nature and scale of development projects which require a Heritage Impact Assessment as mitigation:

*38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—*

***(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;***

*(b) the construction of a bridge or similar structure exceeding 50m in length;*

*(c) any development or other activity which will change the character of a site—*

*(i) exceeding 5 000m<sup>2</sup> in extent; or*

*(ii) involving three or more existing erven or subdivisions thereof; or*

*(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*

*(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*

*(d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or*

*(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.*

An Impact assessment is necessary in view of the distance threshold set in Section 38(1)(a).

#### 3.2. Protection of Historic Buildings

Section 34 of the NHRA provides for automatic provisional protection of all structures/buildings and features older than 60 years unless proof can be furnished that they do not carry heritage value.

### **3.3. Protection of Archaeological and Palaeontological Sites**

Section 35 (4) of the NHRA prohibits the destruction of archaeological, palaeontological and meteorite sites. A palaeontological desktop survey was undertaken and a report is appended to the heritage report.

### **3.4. Protection of Graves and Burial Grounds**

Section 36 of the NHRA gives priority for the protection of Graves and Burial Grounds of victims of conflict and graves and burial grounds more than 60 years old. Within this frame cautious approaches are considered including managed exhumations and re-interment to pave way for development.

. Graves are generally classified under the following categories:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict
- Graves of individuals of royal descent
- Graves that have been specified as important by the Ministers of Arts and Culture.

This study is however mindful of public sensibilities about the sanctity of graves and burial grounds whether they are protected by the law or not.

The **World Archaeological Congress (WAC)** has set international ethical standards for the treatment of human remains. In 1989 the WAC Inter-Congress in South Dakota (USA) adopted the **Vermillion Accord on Human Remains**. Accordingly respect for the mortal remains of the dead shall be accorded to all, irrespective of origin, race, religion, nationality, custom and tradition.

### **3.5. 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 affect 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 is a much broader undertaking to cater for cultural and social needs of people. 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.



### **3.6. The Burra Charter on Conservation of Places of Cultural Significance**

Some generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. In particular South Africa has adopted the **Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** as a benchmark best practice in heritage management.

## **4. APPROACH AND METHODOLOGY**

International best practice in archaeology and heritage management underpins our theoretical approach and methodology. The following tasks define the streams of work which were undertaken:

### **4.1. Literature Study**

A desktop study means a literature review which is imperative to all types of research in order to provide an initial understanding of a subject or situation, identify potential risks and inform the detail, scope and methodology of subsequent investigations. To build context a variety of data is needed, including physical and human geography, as well as archaeology and history. Documentary analysis encompassed a wide range of sources including books, reports, articles, and previous impact assessments in the broader area. The internet is an important portal for accessing reports of previous research in the broader area. In particular heritage impact assessment reports are published on the SAHRIS platform managed by the South African Resources Agency (SAHRA). An outline of the cultural sequence in South Africa based on available literature provided context for the identification of heritage resources in the study area.

**Schalkwyk, J. 2014.** *Cultural Heritage Impact Assessment for the Proposed Swaziland Rail Link, Western Section, Mpumalanga Region.* In this study a number of buildings and historical structures of the modern industrial age were recorded as significant.

**Gaigher, S. 2011.** *First Phase Heritage Impact Assessment for the Proposed Extension to the Camden Ash Disposal Facilities.* Gaigher only noted the built environment including the Camden Power Plant itself dominated by the three cooling towers. No sites of archaeological or historical significance were found.

#### **4.2. Local Community Involvement**

People who live in the area that will be affected by the development are important to the impact study in two respects; as people interested in and/or affected by the project, and as informants. We note community sensibilities about graves and sacred places. The heritage impact evaluation respects the sanctity of graves / burial grounds / and sacred sites.

#### **4.3. Ground Survey**

A ground survey was conducted to locate and document heritage elements of the receiving environment. A ground survey is a systematic procedure for the identification and documentation of archaeological, historical and heritage sites. Systematic foot surveys were undertaken in accordance with standard archaeological practice by which heritage elements can be observed and documented. In order to ensure a good sample along the route of the power line, some survey points were randomly selected while others were chosen in areas likely to yield material on the basis of our field experience.

#### **4.4. Documenting Cultural Landscapes**

The concept of cultural landscapes is of relevant application when dealing with heritage in built environments. Cultural landscapes are defined in Paragraph 47 of the *Operational Guidelines for the Implementation of the World Heritage Convention (2015 edition)* as "cultural properties that represent the combined works of nature and of man". They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

A cultural landscape is "a geographic area including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. It was necessary to note some of the key elements of the peri-urban and urban landscape of this part of Ermelo and assess potential heritage significance which may be impacted upon by the project.

#### 4.5. Ranking of Finds

The Table below is used for ranking the significance of the findings.

	<b>RANKING</b>	<b>TOPOLOGY AND SIGNIFICANCE</b>	<b>NO OF SITES</b>
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	
		<b>TOTAL</b>	

## 5. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

The cultural sequence in South Africa begins with the Stone Age and spans nearly 4 million years. The cultural sequence has specific attributes or identifiers that we look for in an HIA such as stone tools (Stone Age) and pottery and metal implements (Iron Age).

### 5.1. Cultural Sequence Summary

Table 1: Cultural Sequence Summary

PERIOD	EPOCH	ASSOCIATED CULTURAL GROUPS	TYPICAL MATERIAL EXPRESSIONS
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominids: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.
Early Iron Age / Early Farmer Period c300 – 900 AD (or earlier)	Holocene	Iron Age Farmers	Typically distinct ceramics, bead ware, iron objects, grinding stones.
Ntshekane Facies (950 to 1050 AD)	Holocene	Iron Age Farmers, emergence of complex state systems	Typically distinct ceramics, evidence of long-distance trade and contacts
Blackburn Facies	1050 – 700AD		Defined by ceramics
Moor Park Facies	1350 – 700AD		Defined by ceramics
(ii) Historical period	Nguni / Sotho people	Iron Age Farmers	Mfecance / Difaqane
(iii) Colonial period	19 <sup>th</sup> Century	European settlers / farmers / missionaries/ industrialisation	Buildings, Missions, Mines, metals, glass, ceramics

### 5.2. Hominids

South Africa's human history and heritage span more than 3 million years. The stage is set with the appearance of hominids in the proto-Stone Age era. Hominid sites and their fossil remains are found in limestone caves on the highveld in Gauteng, Limpopo and Northwest Provinces.<sup>1</sup> Hominid refers to primate species which are the immediate ancestors of man.

<sup>1</sup> Deacon, J. and N. Lancaster. 1986. *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.

These sites in the Sterkfontein Caves, Makapansgat and Taung respectively have been inscribed on the UNESCO World Heritage List in a serial nomination.

### **5.3. The Stone Age**

#### *5.3.1. Early Stone Age [c. 2 million – 250 000 yrs BP]*

The Early Stone Age marks the earliest appearance of stone artefacts about 1.4 million years ago. Such tools bore a consistent shape such as the pear-shaped handaxe, cleavers and core tools (Deacon & Deacon, 1999). These tools, which have been called Acheulian after a site in France, were probably used to butcher large animals such as elephants, rhinoceros and hippopotamus. Acheulian artefacts are usually found near sites where they were manufactured and thus in close proximity to the raw material or at butchering sites. The early hunters are classified as hominids meaning that they had not evolved to the present human form. No ESA sites have been recorded in around Ermelo (Gaigher 2011, p7).

#### *5.3.2. Middle Stone Age (MSA) [250 000yrs – 40 000yrs BP]*

The Middle Stone Age (MSA), which appeared 200 000 years ago, is marked by the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skilful hunters, especially of large grazers such as wildebeest, hartebeest and eland. It is also believed that by then, humans had evolved significantly to become anatomically modern. Caves were used for shelter suggesting permanent or semi-permanent settlement. Furthermore, there is archaeological evidence from some of the caves indicating that people had mastered the art of making fire. These were two remarkable steps in human cultural advancement.<sup>2</sup>

#### *5.3.3. Later Stone Age (LSA) [40 000 yrs to c. 2000 yrs BP]*

By the beginning of the LSA, humans are classified as *Homo sapiens* which refer to the modern physical form and thinking capabilities. Several behavioural traits are exhibited, such as rock art and purposeful burials with ornaments, became a regular practice. The practitioners of the rock art are definitely the ancestors of the San and sites abound in the whole of Southern Africa. LSA technology is characterised by microlithic scrapers and segments made from very fine-grained rock. Spear hunting continued, but LSA people also

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<sup>2</sup> Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

hunted small game with bows and poisoned arrows. Because of poor preservation, open sites become of less value compared to rock shelters.

#### **5.4. The Iron Age Culture [ca 2000 years BP]**

##### *5.4.1. Early Iron Age Culture*

The Iron Age culture, which supplanted the Stone Age at least 2000 years ago, is associated with the introduction of farming and the use of several metals and pottery, with one of the oldest better-known sites at Silver Leaves south east of Tzaneen dating to AD 270.<sup>3</sup>

Popular theory tends to see rapid north-south movement of speakers of Bantu languages into eastern and southern Africa from a hypothetical source in West Africa.<sup>4</sup> The concept of migration itself has been vehemently questioned, since these people are indigenous to Africa. An alternative position is in favour of a gradual “expansion” or “spread” theory (rather than a migration in the strict sense). Pottery classification has been used to characterize and identify archaeological traditions within the broad Iron-using culture and to further isolate geographical variations, which have been called *facies*.<sup>5</sup>

Metal working represented a new technology not found among the Stone Age hunters. As mixed farmers, iron-using peoples practiced agriculture and kept domestic animals such as cattle, sheep, goat and chicken amongst others. There is however increasing evidence that sheep might have moved into the area much earlier than the Iron Age.

According to Huffman (2007) there were two streams of Early Iron Age (EIA) expansion converging in South Africa, one originating in eastern Africa which has been called the *Urewe-Kwale Tradition* (or the eastern stream) and another from the west, spreading through Zambia and Angola, which he termed the *Kalundu Tradition* (or western stream).

#### **5.5. The Mfecane (The Upheavals)**

The Mfecane triggered migrations culminating in the establishment of the Swati Kingdom in present day eSwatini, formerly the Kingdom of Swaziland (east of the study area). Historically the area is home to the Swati with their territory contiguous with present day eSwatini. Ermelo

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<sup>3</sup> Schalkwyk, J. 2014. Cultural Heritage Impact Assessment for the Proposed Swaziland Rail Link, Western Section, Mpumalanga Region. p13.

<sup>4</sup> Phillipson, D. W. 2005. *African Archaeology*. Cambridge: University of Cambridge Press. p249.

<sup>5</sup> Evers, T. M. 1988. *Recognition of Groups in the Iron Age of Southern Africa*. Unpublished PhD Thesis, University of Witwatersrand. Huffman 2007. *A Handbook on the Iron Age*. Scottsville: UKZN Press

falls within the path of Mzilikazi's Ndebele in their great flight from the reach of Tshaka's *impis* following the historic fallout around 1820/1821. Sotho Speakers were located to the south and west. The Ndebele of Ndzundza occupied territory to the north with a wedge extending to present day Leandra and Secunda.

#### **5.6. European Contact Period**

The Voortrekkers entered the area after 1836 in the aftermath of the Great Trek marking the introduction of commercial farming.

### **6. SUMMARY OF FINDINGS**

The findings of the survey are summarised below:

#### **6.1. Stone Age**

No sites or artefacts of the Stone Age period were found.

#### **6.2. Iron Age**

No sites, objects or features dating to the Iron Age were found.

#### **6.3. Historical Period**

No sites, objects or features dating to the historical period were.

#### **6.4. Built Environment of Cultural Landscape Significance**

Camden Power Station was commissioned in 1969. The Power Station and other associated built elements are less than 60 years old, hence below the threshold of recognition in terms of the heritage Act as industrial heritage of significance. The six cooling towers are iconic structures dominating the landscape and skyline. They represent coal power generating technology of the time from the late 19<sup>th</sup> century through to the late 20<sup>th</sup> century. Such an industrial landscape may be treasured in the future (Figure 7). The impact of the proposed installations on the visual character of this cultural landscape is considered to be negligible.



Figure 7: The cooling towers view southwest seen for the proposed siting of the sewer pump.

An old abandoned conveyor belt with a barrel roof cover for the transportation of coal was noted. This structure of heritage significance considering its age. Furthermore, it will not be affected by the proposed installations (Figure 8):



Figure 8: An old disused conveyor belt covered by a barrel roof.



## 6.5. Ranking of Sites and Risk Assessment

Table 2: Ranking of sites and risk assessment

	<b>RANKING</b>	<b>SIGNIFICANCE</b>	<b>NO OF SITES</b>
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. Cultural Landscapes. These may be protected at the recommendations of a heritage expert.	0
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	0
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>0</b>

## 6.6. Assessment of Impacts using the Heritage Impact Assessment Statutory Framework

### Section 38 of the NHRA

Section 38 (Subsection 3) of the NHRA also provides a schedule of tasks to be undertaken in an HIA process:

*Section 38(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:*

#### **(a) The identification and mapping of all heritage resources in the area affected**

No archaeological or historical relics found.

#### **(b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7**

N/A

**(c) An assessment of the impact of the development on such heritage resources**

N/A

**(i) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development**

The generation of electrical power is a critical driver of economic development. Repair and renewal of aging infrastructure and a number of power stations built from the 1960s to the 1980s has been recognised as a priority.

**(e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources**

Two public notices were placed at Camden Power Station on 18 June 2020 and newspaper advert was published in a local weekly newspaper, the Highvelder, on 03 July 2020 (Figure 9). No correspondence has been received from affected communities to date.



Figure 9: Front page of the Highvelder (3 July 2020) and advertisement insert on page 11.

**(f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives**

N/A

***(g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.***

In the event of discovery of other heritage resources during site preparation and construction, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

**6.7. Risk Assessment of the Findings**

Table 3: Risk assessment of findings

<b>EVALUATION CRITERIA</b>	<b>RISK ASSESSMENT</b>
Description of potential impact	Negative impacts range from partial to total destruction of surface and under-surface movable/immovable relics.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of <b>NHRA</b>
Stage/Phase	Excavation for installation of sump of the pump and underground route of the transportation pipe.
Extent of Impact	The physical works stated above will result in damage and destruction of archaeological resources above and below the surface not seen during the survey.
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.
Intensity	Uncertain.
Probability of occurrence	Medium.
Confidence of assessment	High.
Level of significance of impacts before mitigation	Low.
Mitigation measures	If archaeological or other heritage relics are found during the construction phase, heritage authorities will be advised immediately and a heritage specialist will be called to attend. This is standard precaution in view of inherent limitations of archaeological fieldwork.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

## **7. RECOMMENDATIONS AND CONCLUSION**

The waste reticulation installations can be considered in light of the confirmed absence of cultural material and the low impact of the proposed installations on the visual character of the landscape. However, it is a standard precaution that in the event of other heritage resources being discovered in future phases of the project, the Provincial Heritage Resources Authority or SAHRA must be alerted immediately and an archaeologist or heritage expert called to attend.

## 8. REFERENCES

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### Legislation and Policy

The National Heritage Resource Act (25 of 1999).

ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999).

The WAC Vermillion Accord (USA Dakota) 1989.