

Case 996




ENVIRONMENTAL ASSURANCE (Pty)Ltd  
www.envass.co.za

## ARCHAEOLOGICAL IMPACT ASSESSMENT TECHNICAL REPORT

Prepared for

**Delmas Eskom Distribution**

Document number	Author
PROJ 396-HIAR-1111	Elize Becker
Document version	Reviewed
Final	Emile van Druten BSc Honn MSc (3)
Client Contact Number <b>Natalie Ritsch</b> <i>Pri Sci Nat</i> (BComm Hons BA, MSc) UWC, UCT Project Manager: Cape Town Office <b>for Strategic Environmental Focus (Pty) Ltd</b> <b>021 979 3822</b>	Date (audit)  2011/11/15
Physical Address of Surveyed Premises	Date (received) by client
Delmas DS Eskom Substation Mpumalanga	2011 / 11 / 15 – Version 1 2011 / 12 / 12 – Version 2 Signed in capacity as  

# Contents

- 1. PROJECT BACKGROUND (INFORMATION RECEIVED FROM THE CLIENT) ..... 2
- 2. HISTORICAL BACKGROUND..... 2
- 3. PURPOSE AND OBJECTIVES..... 3
  - 3.1 PROJECT OBJECTIVES..... 3
  - 3.2 EXPECTED PROJECT ACHIEVEMENTS ..... 3
- 4. DEFINITIONS, ACRONYMS AND ABBREVIATIONS ..... 3
- 5. SURVEY METHODOLOGY AND HERITAGE LEGISLATION..... 4
- 6. FINDINGS..... 5
  - 6.1 DESCRIPTION OF SURROUNDING ENVIRONMENT (PLATE 1)..... 5
  - 6.2 POSITION OF PROPOSED DEVELOPMENT AREA..... 8
  - 6.3 SIGNIFICANCE RATING AT THE DEVELOPMENT FOOTPRINT SITE..... 10
- 7. RECOMMENDATIONS ..... 11
- 8. CONCLUSION ..... 11
- 9. REFERENCES ..... 11
- 10. AUTHORITIES CONSULTED ..... 11

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012	Client Restricted Author: Elize Becker
------------------------------------	--	---

## 1. PROJECT BACKGROUND (Information received from the client)

- Install a 3km 132kV 500mm AL cable from Delmas DS substation to SAR Delmas substation.
- The cross-bonded cable system design to comprise of two major sections of 1.5km.

## 2. HISTORICAL BACKGROUND

### i) Archaeological Background of the Mpumalanga Area

The Stone Age Archaeology of the Mpumalanga region is rich in the development of improved stone tool technology and related techniques that have been one of the major aspects being researched by various archaeologists. Extensive time has also been allocated to understand the dietary requirements of the Stone Age people. One of the food types named *Marula* was used during most of the Middle Stone Age that was supplemented by protein consumption (Deacon J, 1999, *Human beginnings in South Africa: uncovering the secrets of the Stone Age*, p 99). The development of stone tool technology occurred in various phases of which the first event happened during 2.5 million years ago when flaked tools were first developed, during 1.7 million years ago when handaxes were made, 600 000 years ago when a significant refined technology in terms of stone tool development occurred and 50 000 years ago when a complex social organisation commenced (Klein & Edgar, 2002).

The Mpumalanga region is well known for the occurrence of circular stone ruins that display the built environment methods used by these Iron Age farming communities (Mitchell P, 2002),. Researchers have been allocating time to understand the expansion of historical – archaeological structures in the region and the spread of settlement areas in the whole of the Mpumalanga region. The homesteads are typical of the Central Cattle Pattern that defines the development of a living area around the focus point of a cattle kraal. The mostly grassland areas are evident of clustered homesteads along the escarpment... Researchers have identified a clearly defined road system that consists of stonewalling placed on both sides that connect the living areas with the open areas (Swanepoel *et al*, 2008, *Fivehundred Years Rediscovered*, Southern African Precedents and Prospects, Witspress, pp169 - 181). The archaeological landscape is evident of terraces that are built on hill slopes. Dry stonewalls were used to to keep animals off the fields and livestock pens were surrounded by the homesteads that acted as an outer wall. The local people used to allocate time in the development of detailed rock engravings that depicted their settlement plans (Swanepoel *et al*, 2007).

### ii) Historical Background of the areas surrounding the development site

In terms of historical records Delmas was surveyed during 1907 by Frank Dumat on a farm named Witklip. The Town was named after Dumat's grandfather's farm positioned in France. Delmas is a French word for a little farm.

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012	Client Restricted Author: Elize Becker	2
------------------------------------	--	---	---

### 3. PURPOSE AND OBJECTIVES

#### 3.1 PROJECT OBJECTIVES

The objective of this Archaeological Impact Assessment is to determine if any archaeological features are positioned on site that could be impacted upon during earthmoving activities. Archaeological Features refer to graves, stone walling, archaeological objects (pottery), rock art, structures older than sixty years and archaeological cultural landscape areas. The features that are positioned in the close vicinity of development activities require further mitigation and recommendation procedures. The objective of the study is to provide the Heritage Resources authority with a detailed report in terms of the type of development, if heritage resources are positioned within the impacted area and what the professional archaeologist's recommendations are.

#### 3.2 EXPECTED PROJECT ACHIEVEMENTS

The project expectation is to achieve a clear understanding of the type of development, the exact location of the development and to determine the direct potential impacts it will have on the heritage resources environment.

### 4. DEFINITIONS, ACRONYMS AND ABBREVIATIONS

**Archaeological sites** are places where people lived and left evidence of their presence in the form of artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces and structures.

**Aim of Conservation:** The aim of conservation is to preserve, retain or recover the cultural interest of a place, and must include provision for its maintenance and its future.

**Context:** Historically valuable places do not consist of buildings alone. Conservation of such places requires the maintenance of appropriate visual settings and contexts. New construction, demolition or modification adversely affecting the setting, and environmental intrusions which adversely affect enjoyment or appreciation of the place, should be excluded.

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

**Determination of Cultural Significance:** Cultural significance should be determined by analysis of the evidence gathered and as far as possible in consultation with a range of parties, including the public at large, local communities, cultural bodies and accredited experts on conservation and related issues.

**Graves, burial sites, war memorials and monuments** are tangible and symbolic reminders of our turbulent history. Graves are architectural examples of space where we transcend the historical past.

**Historic** means significant in history.

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012		Client Restricted Author: Elize Becker
------------------------------------	--	--	---

**Historical** means belonging to the past.

**SAHRA:** South African Heritage Resources Agency.

**Minimal Intervention:** Conservation is based on respect for the existing fabric and should involve the least possible intervention. It should not distort the evidence revealed in the fabric.

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

**Social Value** embraces the qualities, for which a place has become a focus of spiritual, political, national, or other cultural sentiments to a majority or minority group.

## 5. SURVEY METHODOLOGY AND HERITAGE LEGISLATION

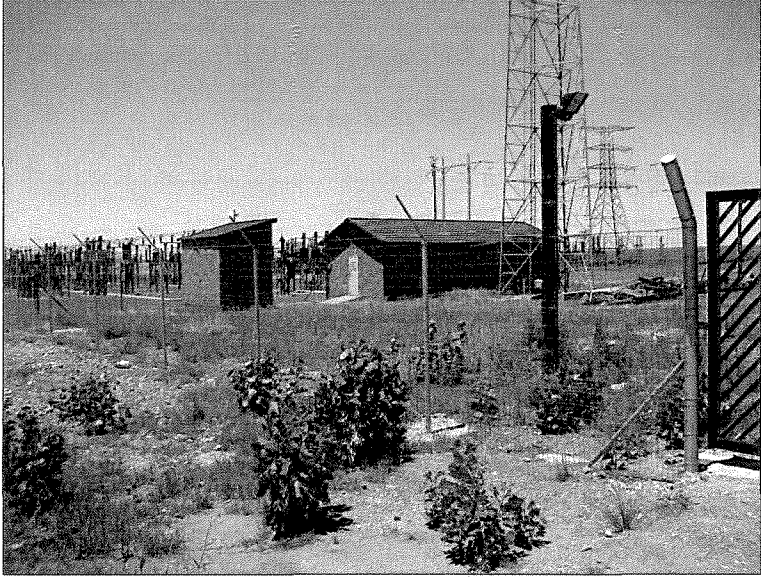

A site survey was undertaken on foot by Ms Elize Becker (Heritage Resources Practitioner) on the 8<sup>th</sup> to 9<sup>th</sup> of November 2011. The survey provided insight into the type of environment, position of the site, the surrounding activities and the possible living heritage resource problems that may occur if the proposed development is to proceed. The following steps were taken to obtain a better understanding of the cultural heritage of the area and the receiving environment.

- a) A project orientation process was undertaken at a desktop level to obtain a better understanding of the nature of the activity and the extent of the development proposal.
- b) A review of the technical proposal was undertaken. Strategic Environmental Focus provided information with regard to the extent of the site and information regarding the position of the development alternatives in terms of the potential impact it may have on the undisturbed area.
- c) A desktop investigation into the history of the area was undertaken including a literature review, internet search and liaison with the South African Heritage Resources Agency.
- d) The compilation of the report and the determination of a way forward.

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012		Client Restricted Author: Elize Becker
------------------------------------	--	--	---

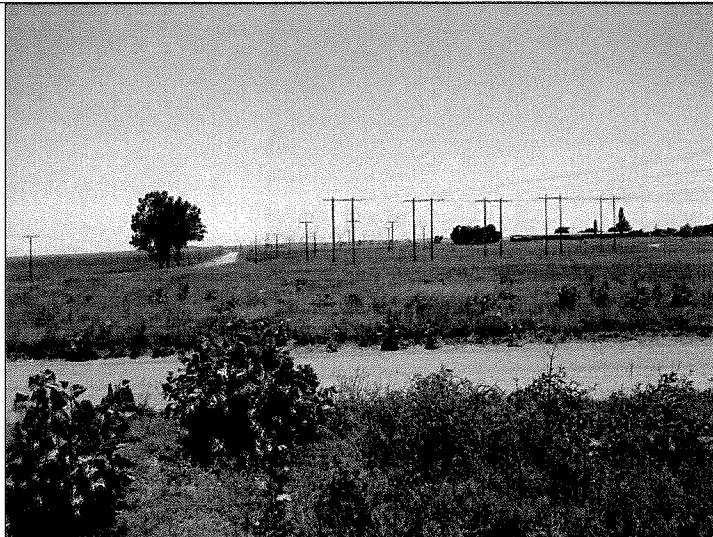
## 6. FINDINGS

### 6.1 DESCRIPTION OF SURROUNDING ENVIRONMENT (Plate 1)

Heritage Resource/ Current Activity	Description
	<p>Delmas Substation</p>
	<p>Secondary roads positioned at the impacted area.</p>

Document No: Doc: PROJ 396  
 Revision: Version 2  
 Date: January 2012

Client Restricted  
 Author: Elize Becker



Existing Power Lines positioned at the development footprint site.



Graveyard positioned close to the Delmas Substation.

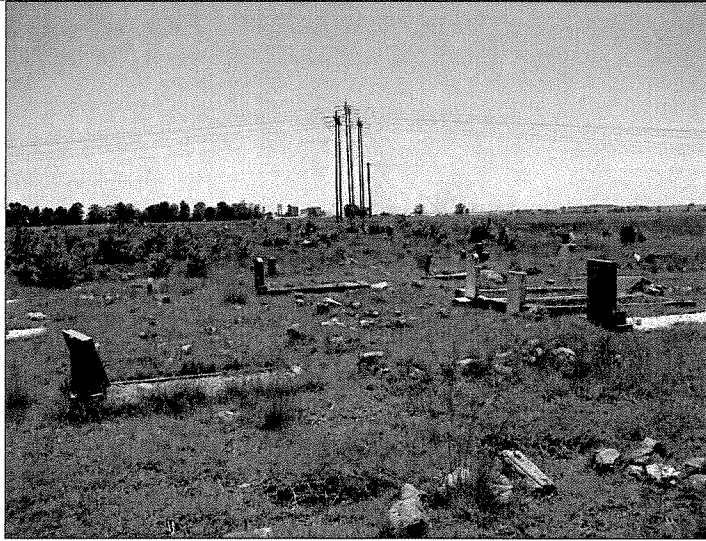


Graves positioned in the vicinity.

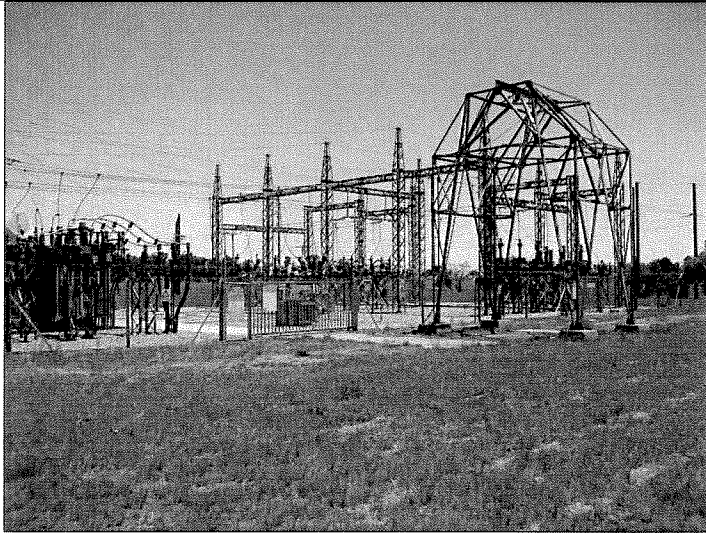
Document No: Doc: PROJ 396  
Revision: Version 2  
Date: January 2012

Client Restricted  
Author: Elize Becker





Display of the graves positioned close to the Delmas substation.



Delmas SAR Substation.



Railway line and road that are positioned opposite of the Delmas SAR Substation.

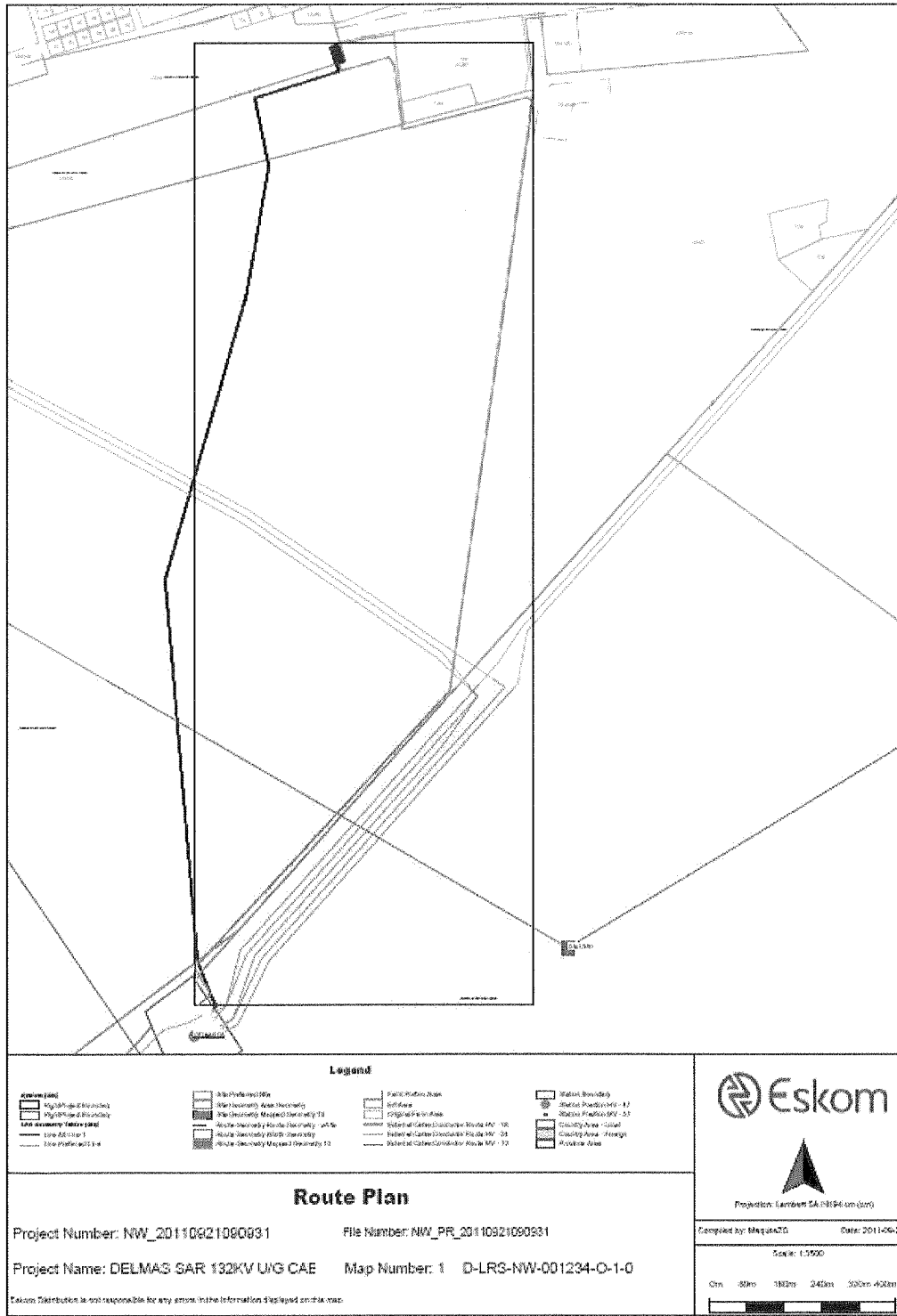
Document No: Doc: PROJ 396  
Revision: Version 2  
Date: January 2012

Client Restricted  
Author: Elize Becker



## 6.2 POSITION OF PROPOSED DEVELOPMENT AREA

Figure 1: Drawing of the current substations and proposed development site (Provided by Client).



Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012		Client Restricted Author: Elize Becker
------------------------------------	--	--	---

The preferred option is the light blue alignment. It will allow limited disturbances at the informal graveyard positioned in the close vicinity of the Delmas Substation (Plate 1).

Figure 2: Relative position of the informal graveyard.

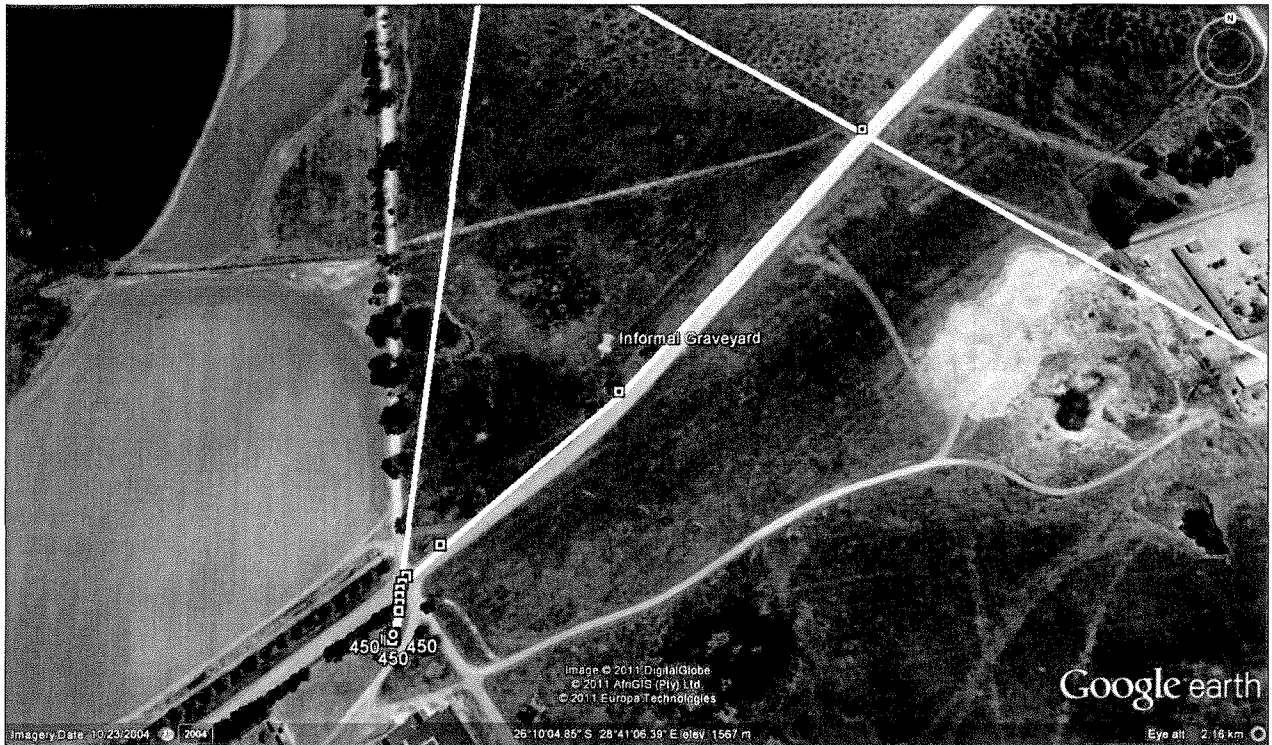
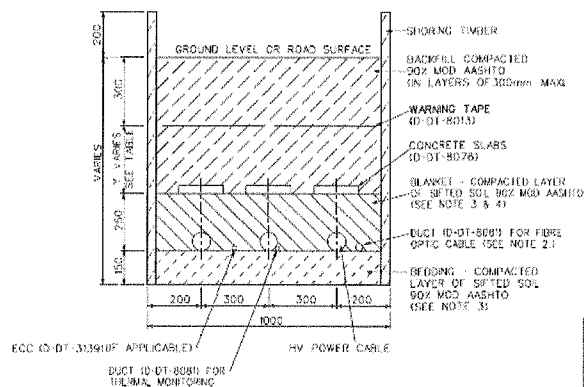


Figure 3: Sketch plan of the type of proposed development activities.



The development will entail earthmoving activities that could result in the uncovering of heritage objects or movement of in situ archaeological material.

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012	Client Restricted Author: Elize Becker
------------------------------------	--	---

### 6.3 SIGNIFICANCE RATING AT THE DEVELOPMENT FOOTPRINT SITE

Class	Attribute	Type 1	Type 2	Type 3
1	Length of sequence / context	No sequence Poor Context Dispersed Distribution	Limited sequence	Long sequence Favourable context High density of artefacts or ecofacts
2	Presence of exceptional items	Absent	Present	Major element
3	Organic preservation	Absent	Present	Major element
4	Potential for future archaeological investigation	Low	Medium	High
5	Potential for public display	Low	Medium	High
6	Aesthetic Appeal	Low	Medium	High
7	Potential for implementation of a long term management plan	Low	Medium	High

Overall significance rating at the development footprint area: Low

The already disturbed development footprint site makes the overall significance of low intensity.

Graves are positioned next to a secondary road that leads towards the Delmas DS substation. Graves are automatically of high significance.

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012		Client Restricted Author: Elize Becker
------------------------------------	--	--	---

## 7. RECOMMENDATIONS

- a) The graves positioned next to the current secondary road in close proximity to the Delmas Substation must not be disturbed, destroyed or exhumed in any way. Any disturbance to these graves will require a permit from the South African Heritage Resources Agency.
- b) It is recommended that the burial area is fenced off and a fifty metre buffer zone is implemented.
- c) If any heritage objects are uncovered during earthmoving processes the National Heritage Authority must be informed and all development activities must cease until further notice.

## 8. CONCLUSION

The main section of the proposed impacted site consists of agricultural land, Eskom Substations, Informal Settlements and industries. The site can be identified as of low significance except for the burials that were identified close to the Delmas Substation. Sensitivity is required in terms of the completion of development activities close to the mentioned site.

## 9. REFERENCES

- Deacon J, 1999, *Human beginnings in South Africa: uncovering the secrets of the Stone Age*, p 99
- <http://www.sahistory.org.za/places/delmas>
- Klein, R. G, Edgar, B. 2002. *The Dawn of Human Culture*, pp 26 - 27
- Mitchell P, 2002, *The Archaeology of Southern Africa*, pp 363 - 364
- National Heritage Resources Act (Act No. 25 of 1999)
- Swanepoel *et al*, 2008, *Fivehundred Years Rediscovered*, Southern African Precedents and Prospects, Witspress, pp169 - 181

## 10. AUTHORITIES CONSULTED

- South African Heritage Resources Agency Cape Town - 021 462 4502

Document No: Revision: Date:	Doc: PROJ 396 Version 2 January 2012		Client Restricted Author: Elize Becker
------------------------------------	--	--	---



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


### DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

### PROJECT TITLE

**Proposed Delmas SAR 132 kV Underground Cable**

Specialist:	Environmental Assurance (Pty). Ltd		
Contact person:	Elize Becker		
Postal address:	394 Tram Street New Muckleneuk		
Postal code:	0181	Cell:	0825699451
Telephone:	012 460 9768	Fax:	012 460 3071
E-mail:	<a href="mailto:elize@envass.co.za">elize@envass.co.za</a>		
Professional affiliation(s) (if any)	ASAPA		

Project Consultant:	Strategic Environmental Focus (Pty) Ltd		
Contact person:	Ms Natalie Ritsch		
Postal address:	P. O. Box 74785 Lynnwood Ridge Pretoria		
Postal code:	0040	Cell:	071 673 2440
Telephone:	(021) 979 3822	Fax:	(021) 979 3830
E-mail:	<a href="mailto:natalie@sefsa.co.za">natalie@sefsa.co.za</a>		

4.2 The specialist appointed in terms of the Regulations\_

I, Elize Becker , declare that --

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



---

Signature of the specialist:  
ENVASS

---

Name of company (if applicable):

2012 01 20

---

Date: