



**PGS**

**HERITAGE & GRAVE  
RELOCATION CONSULTANTS**

## **HERITAGE ASSESSMENT**

*Proposed Road P12-2 Borrow Pit Project near Schweizer Reneke, Northwest Province*

Version **1.0**

**DEA Reference:**

25 April 2012

## ACKNOWLEDGEMENT OF RECEIPT

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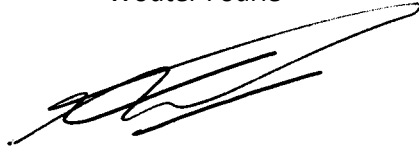
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*The report has been compiled by PGS Heritage & Grave Relocation Consultants an appointed Heritage Specialist for Worley Parsons RSA The views stipulated in this report are purely objective and no other interests are displayed during the decision making processes discussed in the Archaeological Impact Assessment Process.*

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## **Executive Summary**

PGS Heritage and Grave Relocation Consultants was appointed by WorleyParson RSA, to undertake a Heritage Scoping for the development of borrow pits at 5 locations along the R34 road for the reseal and rehabilitation of road P12-2 Schweizer Reneke to Vryburg, North West Province.

During the survey of the 5 borrow pit sites no sites of heritage significance were found.

It was found that the proposed activities will not have any adverse effect on heritages resources.

General recommendation on archaeological work

If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

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**ABBREVIATIONS**

<b><i>Acronyms</i></b>	<b><i>Description</i></b>
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
AMAFA	
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
EIA practitioner	Environmental Impact Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GIS	Geographic Information System
GPS	Global Positioning System
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
I&AP	Interested & Affected Party
LSA	Late Stone Age
LIA	Late Iron Age
MSA	Middle Stone Age
MIA	Middle Iron Age
NEMA	National Environmental Management Act
NID	Notice of Intent to develop
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
PSSA	Palaeontological Society of South Africa
ROD	Record of Decision
SADC	Southern African Development Community
SAHRA	South African Heritage Resources Agency

## TERMS & DEFINITION

### Archaeological resources

This includes:

- i. material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- ii. rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- iii.
- iv. wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- v. features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

### Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

### Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- i. construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- ii. carrying out any works on or over or under a place;
- iii. subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- iv. constructing or putting up for display signs or boards;
- v. any change to the natural or existing condition or topography of land; and
- vi. any removal or destruction of trees, or removal of vegetation or topsoil

### Heritage resources

This means any place or object of cultural significance

# 1. INTRODUCTION

PGS Heritage and Grave Relocation Consultants was appointed by WorleyParson RSA, to undertake a Heritage Scoping for the development of borrow pits at 5 locations along the R34 road for the reseal and rehabilitation of road P12-2 Schweizer Reneke to Vryburg, North West Province.

## 1.1 Project Background

North West Provincial Government, Department: Public Works; Roads and Transport intends to upgrade Road P12-2 between Schweizer Reneke and Vryburg in the North West Province. With the intended upgrade large volumes of construction material in the form of gravel would be required. This construction material must have the correct geotechnical properties and be of a specific quality to ensure the integrity of the constructed road. The material would need to be sourced from borrow pits in the vicinity of the road.

For this reason geotechnical investigations have been conducted on numerous borrow pit sites with potentially suitable construction material. The investigations were conducted on sites in close proximity to the road in order to reduce hauling costs from the borrow pits to the road during construction. Five potential borrow pit sites have been identified as suitable. The establishment, operation and rehabilitation and closure of the potential borrow pits will however require environmental authorisation prior to the commencement of the activities.

## 1.2 Site location

The sites are located between kilometers 6.2 and 28.5 on the R34 (P12-2) from Schweizer Reyneke to Vryburg **Figure 1.**

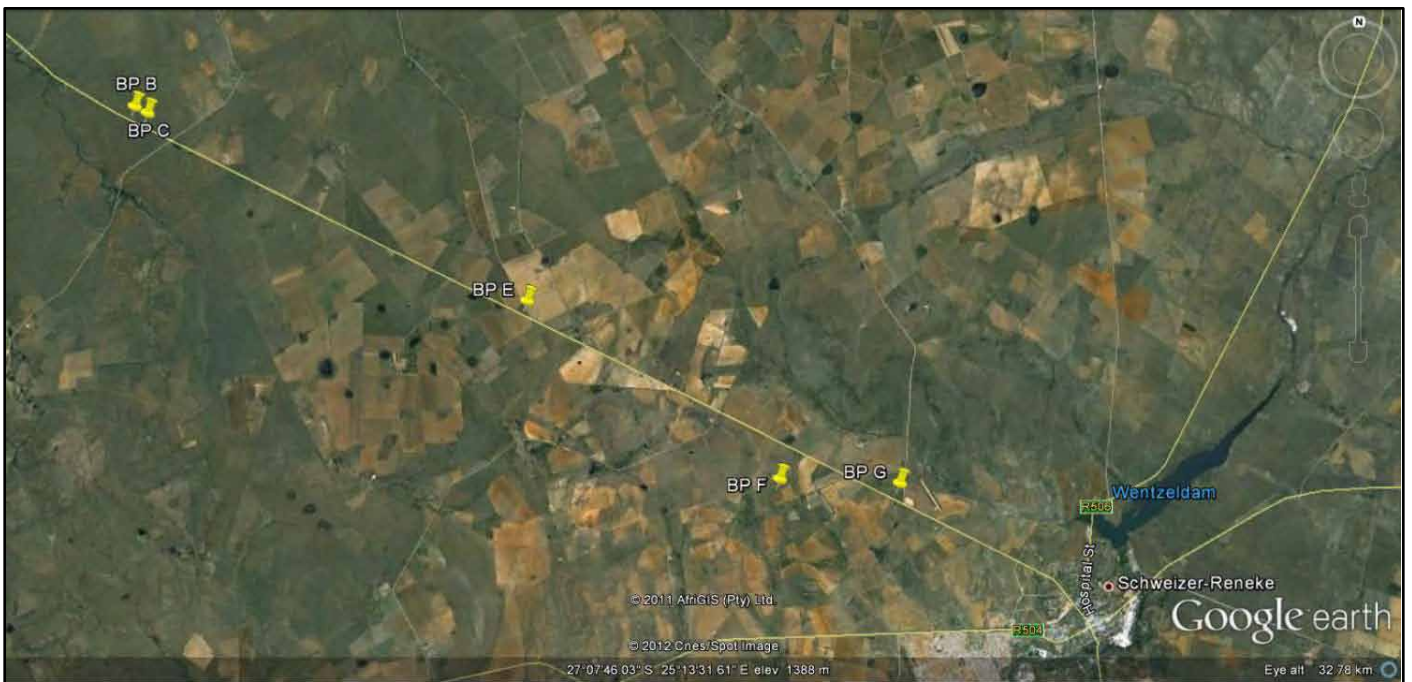


Figure 1 – Locality Map of the Study Area



### 1.3 Legislative Framework

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- i. National Environmental Management Act (NEMA) Act 107 of 1998
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999
- iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- iv. Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- i. National Environmental Management Act (NEMA) Act 107 of 1998 as promulgated in the Regulations.
  - a. Basic Environmental Assessment (BEA) – Section (23)(2)(d)
  - b. Environmental Scoping Report (ESR) – Section (29)(1)(d)
  - c. Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
  - d. Environmental Management Plan (EMP) – Section (34)(b)
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999
  - a. Protection of Heritage resources – Sections 34 to 36; and
  - b. Heritage Resources Management – Section 38
- i. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
  - a. Section 39(3)
- ii. Development Facilitation Act (DFA) Act 67 of 1995
  - a. The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34 (1) of the NHRA states that “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...”. The NEMA (No 107 of 1998) states that an integrated environmental management plan should (23:2 (b)) “...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage”. In accordance with legislative requirements and EIA rating criteria, the regulations of SAHRA and Association of Southern African Professional Archaeologists (ASAPA) have also been incorporated to ensure that a comprehensive legally compatible AIA report is compiled. The heritage impact assessment criteria are described in more detail in **Appendix A**.

## 1.4 Assumptions and Limitations

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and the current dense vegetation cover in some areas. As such, should any heritage features and/or objects not included in the present inventory be located or observed, an archaeologists must immediately be contacted.

Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time as the archaeologist has been able to make an assessment as to the significance of the site (or material) in question. This applies to graves and cemeteries as well. In the event that any graves or burial places are located during the development the procedures and requirements pertaining to graves and burials will apply.

## 2. DESCRIPTION OF AFFECTED ENVIRONMENT

The five sites were evaluated during a day's site visit to all five sites and the findings are as follows

### Borrow Pits – BP B and BP C

The site is characterised by dense bushveld over most of the study area. A section of the proposed borrow pit BP C was previously utilised as a borrow pit.



*Figure 2 – General view of borrow pit BP B (© W Fourie, 2011)*



Figure 3 – General view of borrow pit BP C, with previous borrow pit visible (© W Fourie, 2011)



Figure 4 – Tracklogs of survey done by archaeologist (© W Fourie, 2011)

## Borrow Pits – BP E

The site is characterised by grass land utilised for grazing inter dispersed with thorny bushveld



Figure 5 – General view of borrow pit BP E (© W Fourie, 2011)



Figure 6 – Tracklogs of survey done by archaeologist (© W Fourie, 2011)

### Borrow Pits – BP F

The site is characterised by grass land utilised for grazing inter dispersed with thorny bushveld. A section has previously been utilised as a borrow pit. The western section of the study area is characterised by a rocky outcrop.



Figure 7 – General view of borrow pit BP F, with rocky outcrop to the left (© W Fourie, 2011)



Figure 8 – Tracklogs of survey done by archaeologist (© W Fourie, 2011)

### Borrow Pits – BP G

The site is characterised by grass land utilised for grazing inter dispersed with thorny bushveld. A section has previously been utilised as a borrow pit.



Figure 9 – General view of borrow pit BP G, with previous borrow pit visible (© W Fourie, 2011)



Figure 10 – Tracklogs of survey done by archaeologist (© W Fourie, 2011)

### 3. ASSESSMEN METHODOLOGY & APPROACH

#### 3.1 General Approach

This chapter describes the evaluation criteria to be used for the sites listed below and to be identified during the ground thruthing.

The significance of archaeological sites was based on four main criteria:

- site integrity (i.e. primary vs. secondary context),
- amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter)
  - Low - <10/50m<sup>2</sup>
  - Medium - 10-50/50m<sup>2</sup>
  - High - >50/50m<sup>2</sup>
- uniqueness; and
- potential to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C – Extensive mapping before destruction and preserve section where possible

D - Preserve site, or extensive data collection and mapping of the site; and

E - Preserve site

Impacts on these sites by the development will be evaluated as follows

Impact

The potential environmental impacts that may result from the proposed development activities.

Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate impacts.

### 3.2 Evaluation Methods

#### Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

Table 2: Site significance classification standards as prescribed by SAHRA

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction
Generally Protected C (GP.A)	-	Low Significance	Destruction

#### Impact Rating

##### VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with a VERY HIGH significance.

##### HIGH

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.



Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

#### MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

#### LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.

Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

#### NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

#### Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exists to verify the assessment.

PROBABLE: Over 70% certainty of a particular fact, or of the likelihood of an impact occurring.

POSSIBLE: Only over 40% certainty of a particular fact or of the likelihood of an impact occurring.

UNSURE: Less than 40% certainty of a particular fact or likelihood of an impact occurring.

#### Duration

SHORT TERM: 0 to 5 years

MEDIUM: 6 to 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

Example

Evaluation

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B

#### 4. RECOMMENDATIONS

During the survey no sites of heritage significance were found.

It was found that the proposed development will not have any adverse effect on heritages resources.

General recommendation on archaeological work

If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

#### 5. LIST OF PREPARES

PGS Heritage and Grave Relocation Consultants have seconded the following specialist to this project:

Team Leader: Wouter Fourie (BA (Hon) Archaeology), Accredited Professional Archaeologist (ASAPA) – CRM Accredited Principal Investigator.

## **APPENDIX A**

### **LEGISLATIVE PRINCIPLES**

#### LEGISLATIVE REQUIREMENTS – TERMINOLOGY AND ASSESSMENT CRITERIA

##### **3.1 General principles**

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it. The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the construction company's cost. Thus, the construction company will be able to proceed without uncertainty about whether work will have to be stopped if an archaeological or heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;

- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video 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), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

### **3.2 Graves and cemeteries**

Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation.

If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.