



IVECO SOUTH AFRICA WORKS (PTY) LTD

Proposed Construction of a waste management facility at the Iveco Vehicle Assembly Plant on Erf 72 Rosslyn Ext 1, Tshwane Metropolitan Municipality, Gauteng Province

Heritage Impact Assessment

Issue Date: 19 May 2014
Revision No.: 1
Project No.: 12096

Date:	19/05/2014
Document Title:	Proposed Construction for the Iveco Vehicle Assembly Plant on Erf 72 Rosslyn Ext 1, Tshwane Metropolitan Municipality, Gauteng Province. – Heritage Impact Assessment
Author:	Marko Hutten
Revision Number:	1
Checked by:	Kelly Tucker
For:	SiVEST Environmental Division

Declaration of Independence

The report has been completed by PGS Heritage an appointed Heritage Specialist for SiVEST Environmental Division. The views stipulated in this report are purely objective and no other interests are displayed during the decision making processes discussed in the Heritage Impact Assessment Process.

HERITAGE CONSULTANT: PGS Heritage

CONTACT PERSON: Marko Hutten

SIGNATURE:



Executive Summary

PGS Heritage (PGS) was appointed by SiVEST Environmental Division to undertake a Heritage Impact Report that forms part of the assessment of the construction of the Iveco Vehicle Assembly Plant for the proposed construction of the Iveco Vehicle Assembly Plant and waste management facility on Erf 72 Rosslyn Ext 1, Tshwane Metropolitan Municipality, Gauteng Province.

Heritage resources are unique and non-renewable and as such any impact on such resources must be seen as significant.

The background research, that forms part of the HIA, has shown that the area surrounding the indicated study area had a rich and long history. Van Vollenhoven (1992) carried out a survey overlapping the current study area and identified Iron Age remains including stone walling which he described as Late Iron Age dating to between 1500 A.D. and 1850 A.D. De Jong (2002) carried out a survey for a quarry some five kilometres to the south of the current study area and noted the presence of an informal graveyard and farm workers houses dating to between 1930 and 1960 while SAHRIS case number 2779 recorded another informal graveyard approximately five kilometres to the south east. In a survey for a proposed mining area some ten kilometres to the west of the current study area Van Schalkwyk (1998) documented a large number of heritage resources including Middle Stone Age lithics (surface scatterings out of context), a rock shelter with paintings and stone-walled Late Iron Age sites some of which were extensive and characterised by terracing. In a survey for a borrow pit approximately fifteen kilometres to the east Huffman (2001) recorded a Late Iron Age settlement possibly associated with the nearby and well known KwaMnyamana complex.

No heritage sites or finds of heritage value or significance was identified during the field survey of the indicated study area.

It was also found that the palaeontological sensitivity for the study area was insignificant/zero and that no palaeontological studies are required. It is believed that no sites or finds of palaeontological value or significance will be identified at the indicated study area.

It is therefore recommended that the proposed construction of the Iveco Vehicle Assembly Plant and waste management facility can continue from a heritage point of view.

IVECO SOUTH AFRICA WORKS (PTY) LTD
HERITAGE IMPACT ASSESSMENT

Contents	Page
1 INTRODUCTION	1
1.1 Scope of the Study	1
1.2 Specialist Qualifications	1
1.3 Assumptions and Limitations	1
1.4 Legislative Context	2
2 TECHNICAL DETAILS OF THE PROJECT	7
2.1 Technical Project Description	7
2.2 Project Description	7
3 ASSESSMENT METHODOLOGY	8
3.1 Methodology for Impact Assessment	9
4 CURRENT STATUS QUO	14
5 IMPACT ASSESSMENT	23
5.1 Impact Matrix	23
5.2 Confidence in Impact Assessment	24
5.3 Cumulative Impacts	24
5.4 Reversibility of Impacts	24
6 MITIGATION MEASURES	ERROR! BOOKMARK NOT DEFINED.
6.1 Management Guidelines	Error! Bookmark not defined.
6.2 All phases of the project	Error! Bookmark not defined.
7 CONCLUSIONS AND RECOMMENDATIONS	24

List of Figures

Figure 1: Human and Cultural Timeline in Africa (Morris, 2008)	6
Figure 2: Locality Map (as provided by (SiVEST)	7
Figure 3: Section of the First Edition of the 2528CA Topographical Sheet. The study area is shown in red.	18
Figure 4: Palaeontological Sensitivity Map of the study area	19
Figure 5: Track logs across the study area.	21
Figure 6: View of an open area on the western extent of the proposed site	21
Figure 7: View of some of the structures from the old Nissan Plant	22
Figure 8: View of a section of the existing old plant.	22
Figure 9: View of ongoing construction at the northern extent of the proposed site	23

1 INTRODUCTION

PGS Heritage (PGS) was appointed by SiVEST Environmental Division to undertake a Heritage Impact Report that forms part of the assessment study for the proposed construction of the Iveco Vehicle Assembly Plant and waste management facility on Erf 72 Rosslyn Ext 1, Tshwane Metropolitan Municipality, Gauteng Province.

1.1 Scope of the Study

The aim of the study is to identify possible heritage sites and finds that may occur in the proposed development area. The Heritage Impact Assessment aims to inform the Environmental Assessment Practitioners and Developers of areas of high sensitivity and to guide management plans to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999) (NHRA).

1.2 Specialist Qualifications

The Heritage Impact Assessment was compiled by PGS Heritage & Grave Relocation Consultants (PGS).

The staff at PGS has a combined experience of nearly 60 years in the heritage consulting industry. PGS and its staff have extensive experience in managing HIA processes. PGS will only undertake heritage assessment work where they have the relevant expertise and experience to undertake that work competently.

Marko Hutten, heritage specialist and project archaeologist, has 15 years of experience in the industry and is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist and is accredited as a Field Director.

Wouter Fourie, the Principal Heritage Specialist, is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist and is accredited as Principal Investigator; he is further an Accredited Professional Heritage Practitioner with the Association of Professional Heritage Practitioners – Western Cape (APHP).

1.3 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. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist 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 that the heritage specialist had 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 as set out below.

1.4 Legislative Context

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
 - 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
- iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
 - a. Section 39(3)
- iv. 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 NHRA is utilized as the basis for the identification, evaluation and management of heritage resources and in the case of CRM those resources specifically impacted on by development as stipulated

in Section 38 of NHRA, and those developments administered through NEMA, MPRDA and the DFA legislation. In the latter cases the feedback from the relevant heritage resources authority is required by the State and Provincial Departments managing these Acts before any authorizations are granted for development. The last few years have seen a significant change towards the inclusion of heritage assessments as a major component of Environmental Impacts Processes required by NEMA and MPRDA. This change requires us to evaluate the Section of these Acts relevant to heritage (Fourie, 2008):

The NEMA 23(2)(b) states that an integrated environmental management plan should, "...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage".

A study of subsections (23)(2)(d), (29)(1)(d), (32)(2)(d) and (34)(b) and their requirements reveals the compulsory inclusion of the identification of cultural resources, the evaluation of the impacts of the proposed activity on these resources, the identification of alternatives and the management procedures for such cultural resources for each of the documents noted in the Environmental Regulations. A further important aspect to be taken account of in the Regulations under NEMA is the Specialist Report requirements laid down in Section 33 of the regulations (Fourie, 2008).

Table 1: Terminology and Abbreviations

<i>Abbreviations</i>	<i>Description</i>
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
BAR	Basic Environmental Impact Assessment
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
GPS	Global Positioning System
HIA	Heritage Impact Assessment
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
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

- **Archaeological resources**

This includes:

- 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;
- 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;
- 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;
- 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 a change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

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

- **Early Stone Age**

The archaeology of the Stone Age between 700 000 and 2 500 000 years ago.

- **Fossil**

Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

- **Heritage**

That which is inherited and forms part of the National Estate (historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

- **Heritage resources**

This means any place or object of cultural significance

- **Holocene**

The most recent geological time period which commenced 10 000 years ago.

- **Late Stone Age**

The archaeology of the last 20 000 years associated with fully modern people.

- **Late Iron Age (Early Farming Communities)**

The archaeology of the last 1000 years up to the 1800's, associated with iron-working and farming activities such as herding and agriculture.

- **Middle Stone Age**

The archaeology of the Stone Age between 20-300 000 years ago, associated with early modern humans.

- **Palaeontology**

Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

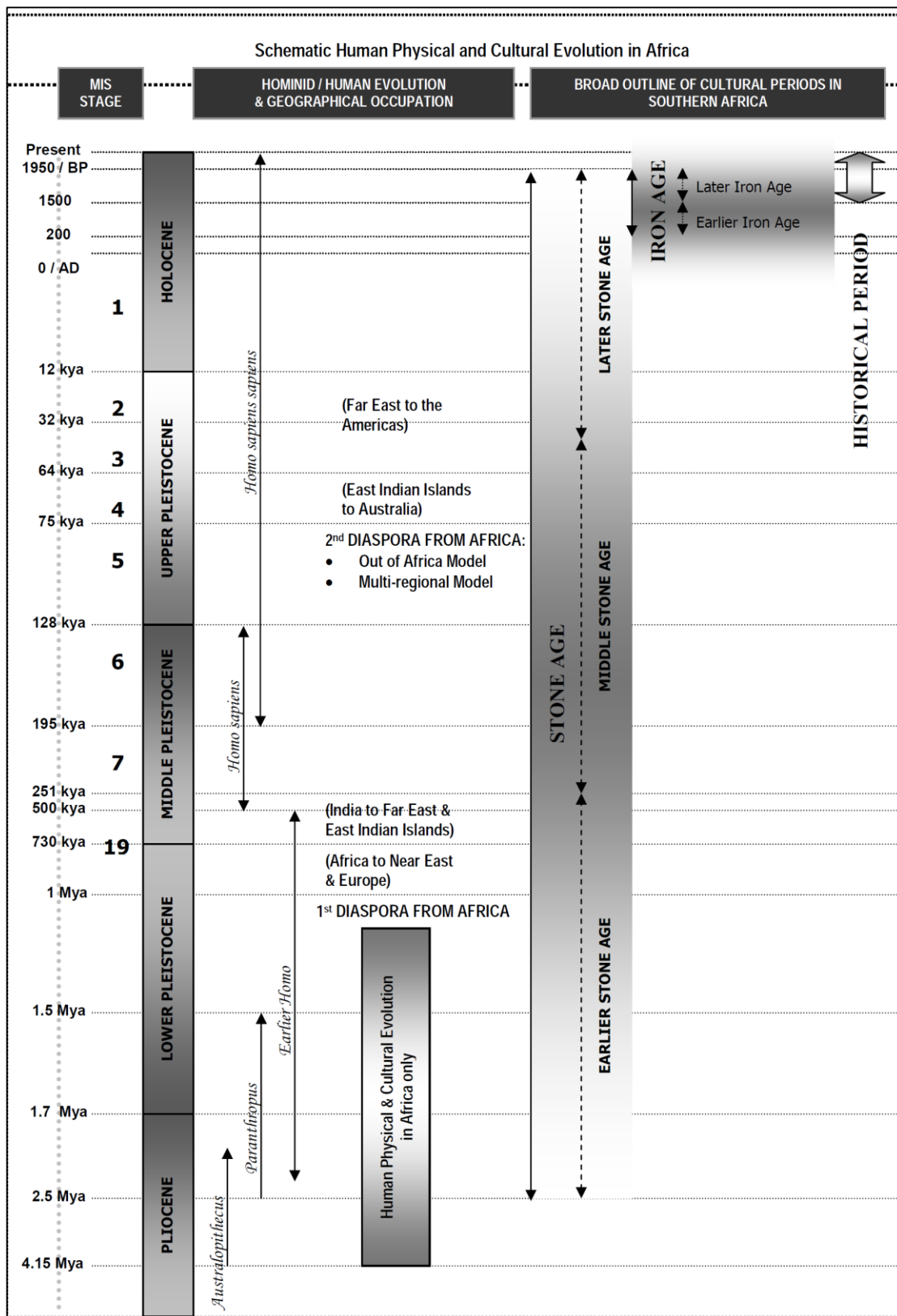


Figure 1: Human and Cultural Timeline in Africa (Morris, 2008)

2 TECHNICAL DETAILS OF THE PROJECT

2.1 Technical Project Description

Iveco South Africa Works (Pty) Ltd is proposing to upgrade and implement the new vehicle assembly plant in Rosslyn, Gauteng Province, and part of this facility includes the implementation of a waste management facility. The proposed development will be situated on Erf 72 in Rosslyn Ext 1. The proposed development falls within the jurisdiction of the City of Tshwane Metropolitan Municipality which is situated in the Gauteng Province (Figure 2). As such, Iveco South Africa Works (Pty) Ltd has appointed SiVEST as the independent Environmental Assessment Practitioner (EAP) to undertake the required environmental studies for the above-mentioned proposed project.

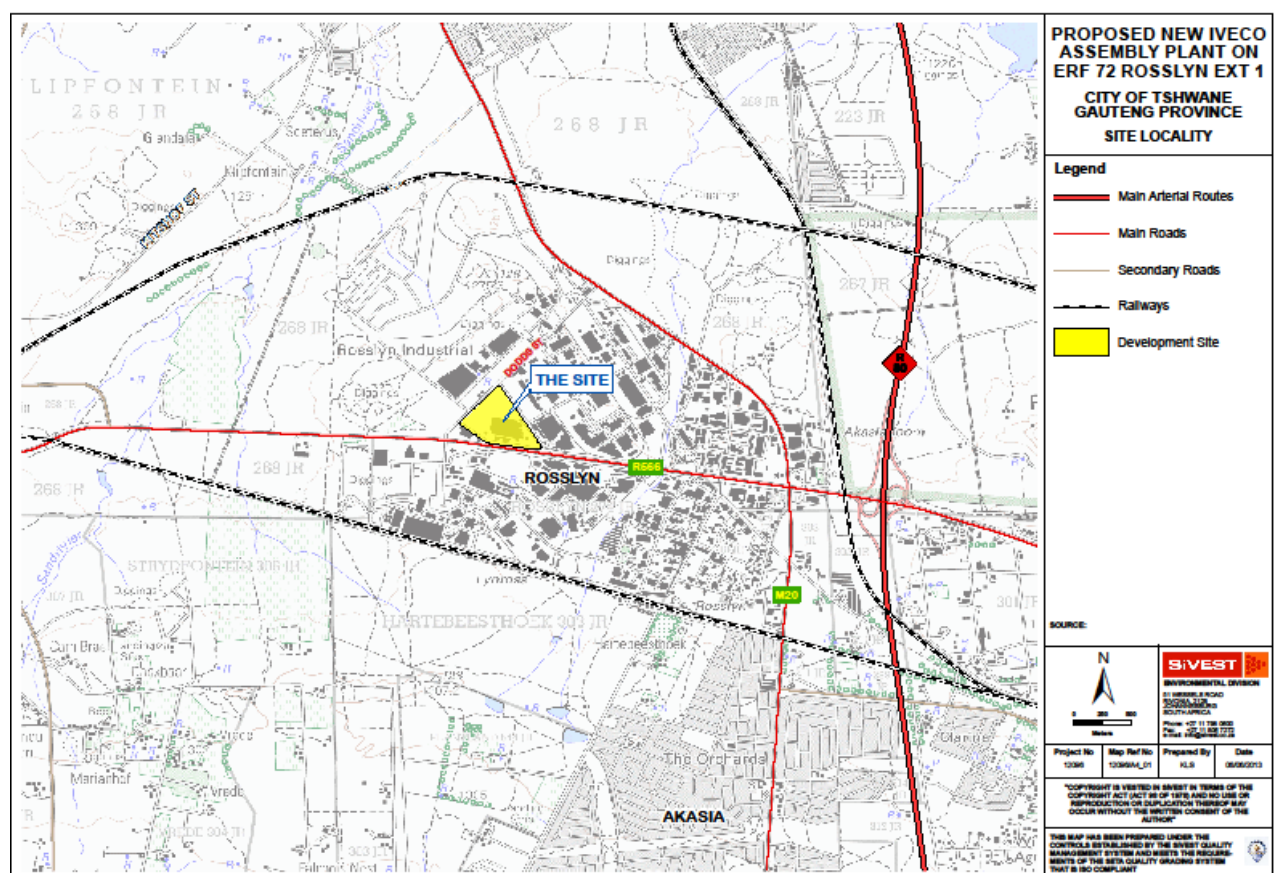


Figure 2: Locality Map (as provided by (SiVEST))

2.2 Project Description

The proposed development will entail the construction of the Iveco Vehicle Assembly Plant on Erf 72 Rosslyn Ext 1, Tshwane Metropolitan Municipality, Gauteng Province. As such, the HIA study was required so to confirm that there are not heritage significant resources on site that will require a permit prior to the commencement of the construction.

3 ASSESSMENT METHODOLOGY

The section below outlines the assessment methodologies utilised in the study.

This Heritage Impact Assessment (HIA) report was compiled by PGS Heritage a (PGS) for the proposed project. The applicable maps, tables and figures, are included as stipulated in the NHRA (no 25 of 1999), the National Environmental Management Act (NEMA) (no 107 of 1998) and the Minerals and Petroleum Resources Development Act (MPRDA) (28 of 2002). The HIA process consisted of three steps:

- Step I – Literature Review: The background information to the field survey relies on the previous background research completed for the larger project on the Iveco Vehicle Assembly Plant.
- Step II – Physical Survey: A physical survey was conducted on foot through the proposed project area by a qualified archaeologist and assistant on 09 April 2014. It was aimed at locating and documenting sites falling within the proposed development footprint.
- Step III – The final step involved the recording and documentation of relevant archaeological resources, as well as the assessment of resources in terms of the heritage impact assessment criteria and report writing, as well as mapping and constructive recommendations

The significance of heritage 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 - <10/50m²
 - Medium - 10-50/50m²
 - High - >50/50m²
- **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 - No-go or relocate pylon position

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

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)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4c	Low Significance	Destruction

3.1 Methodology for Impact Assessment

The EIA Methodology assists in evaluating the overall effect of a proposed activity on the environment. The determination of the effect of an environmental impact on an environmental parameter is determined through a systematic analysis of the various components of the impact. This is undertaken using information that is available to the environmental practitioner through the process of the environmental impact assessment. The impact evaluation of predicted impacts was undertaken through an assessment of the significance of the impacts.

3.1.1 Determination of Significance of Impacts

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas Intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in **Table 3**.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

3.1.2 Impact Rating System

Impact assessment must take account of the nature, scale and duration of effects on the environment whether such effects are positive (beneficial) or negative (detrimental). Each issue / impact is also assessed according to the project stages:

- planning
- construction
- operation
- decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance has also been included.

The rating system is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact. Impacts have been consolidated into one rating. In assessing the significance of each issue the following criteria (including an allocated point system) is used:

Table 3: Description

NATURE
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.
GEOGRAPHICAL EXTENT

This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.

1	Site	The impact will only affect the site
2	Local/district	Will affect the local area or district
3	Province/region	Will affect the entire province or region
4	International and National	Will affect the entire country

PROBABILITY		
This describes the chance of occurrence of an impact		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
REVERSIBILITY		
This describes the degree to which an impact on an environmental parameter can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.

IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource.	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.

4	Complete loss of resources	The impact is result in a complete loss of all resources.

DURATION		
This describes the duration of the impacts on the environmental parameter. Duration indicates the lifetime of the impact as a result of the proposed activity		
1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase (0 – 1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 50 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).

CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts on the environmental parameter. A cumulative effect/impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects

INTENSITY/ MAGNITUDE	
Describes the severity of an impact	

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/ component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapse). Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

SIGNIFICANCE		
<p>Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on the environmental parameter. The calculation of the significance of an impact uses the following formula:</p> <p>(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.</p> <p>The summation of the different criteria will produce a non weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.</p>		
Points	Impact Significance Rating	Description
6 to 28	Negative Low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive Low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative Medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.

29 to 50	Positive Medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative High impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive High impact	The anticipated impact will have significant positive effects.
74 to 96	Negative Very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive Very high impact	The anticipated impact will have highly significant positive effects.

4 CURRENT STATUS QUO

4.1 Background History

The archival research focused on available information sourced that was used to compile a background history of the study area and surrounds. This data then informed the possible heritage resources to be expected during field survey.

The examination of heritage databases, historical data and cartographic resources represents a critical additional tool for locating and identifying heritage resources and in determining the historical and cultural context of the study area. Therefore an internet literature search was conducted and relevant archaeological and historical texts were also consulted. Relevant topographic maps and satellite imagery were studied. Researching the SAHRA APM Report Mapping Project records and the SAHRIS online database (<http://www.sahra.org.za/sahris>), it was determined that a number of previous archaeological or historical studies had been performed within the wider vicinity of the study area.

Previous studies listed in the APM Report Mapping Project for the area included the following studies listed in chronological order below:

- Van Vollenhoven, A.C. 1992. **PWV7 Route: Basiese Beplanning: Argeologiese Verslag**. An unpublished report by Archaetnos CC on file at SAHRA as 1992-SAHRA-0011.
- Van Schalkwyk, J.A. 1998. **A Survey of Cultural Resources in the Proposed Mining Area on the Farm Hoekfontein**. An unpublished report by the National Cultural History Museum on file at SAHRA as 1998-SAHRA-0052.
- Huffman, T.N. 2001. **Archaeological Assessment of Borrow Pit 33, N4 Platinum Toll Road**. An unpublished report by Archaeological Resources Management on file at SAHRA as 2001-SAHRA-0126.
- Van Schalkwyk, J.A. 2002. **Identification of Graves on the Farm Hartebeesthoek 301 JR, Akasia Municipal Area, Wonderboom District, Gauteng Province**. An unpublished report by the National Cultural History Museum on file at SAHRA as 2002-SAHRA-0098.
- De Jong, R.C. 2002. **Heritage Scoping: Estension of Sabrix Quarry on Farm Boekenhoutkloof 315 JR, Pretoria**. An unpublished report by Cultmatrix CC on file at SAHRA as 2002-SAHRA-0159.
- Coetzee, F.P. 2006. **Heritage Assessment of the Proposed Residential Development: Orchards Extension 25, Rosslyn, Tshwane Metropolitan Municipality, Gauteng**. An unpublished report by the University of South Africa on file at SAHRA as 2006-SAHRA-0065.
- Küsel, U. 2007. **Cultural Heritage Resources Impact Assessment of Portions 259, 260, 266 and 267 of the Farm Rietfontein 485 JQ Madibeng North West Province**. An unpublished report by African Heritage Consultants CC on file at SAHRA as 2007-SAHRA-0559.
- Van der Walt, J. 2008. **Archaeological Impact Assessment: Montana Park Extension 150, Holding 67 & 68 Montana AH, Pretoria, Gauteng Province**. An unpublished report by Matakoma-ARM Heritage Contracts Unit on file at SAHRA as 2008-SAHRA-0099.
- Van der Walt, J. 2008. **Archaeological Impact Assessment on the Remainder of the Farm Wentzelrust 223 JR, Soshanguve, Gauteng Province**. An unpublished report by the Wits Heritage Contacts Unit on file at SAHRA as 2008-SAHRA-0545.

Researching the SAHRIS online database (<http://www.sahra.org.za/sahris>) accessed 19th May 2014) further studies were identified in the vicinity of the study area and these are listed in numerical order below:

- SAHRIS case number 728: **Platinum Group Metals Prospecting on Klipfontein 268 JR REFERENCE NO: GP 30/5/1/2/2(349) PR.**
- SAHRIS case number 1628: **SAFDEV SSDC (Pty) Ltd is proposing to construct a bridge over the Kaalplaasspruit to provide access to the eastern phase of the Soshanguve South Ext 6 low-cost housing development, on Part of Portion 279 (Ptn of Ptn 122) and a part of the remainder of Portion 170 (Ptn of Ptn 1) of the farm Klipfontein 268 JR.**
- SAHRIS case number 2779: **Klerksoord Extension 25 on Portion 147, Part of Portions 146, the Remaining Extent of Portion 160 and the Remaining Extent of Portion 164 of the Farm Witfontein 301-JR and Klerksoord Extension 26 on Portion RE/145 and Parts of Portions 146, RE/160 and RE/164 of the Farm Witfontein 301-JR, situated in the City of Tshwane, City of Tshwane Metropolitan Municipality, Gauteng.**
- SAHRIS case number 2098: **Kgabalatsane Solar Facility, north-east of Brits.**
- SAHRIS case number 3492: **A Phase 1 Heritage Impact Assessment Report for the Proposed Wolmerton PRASA Depot Upgrade as part of PRASA Railway Modernization Project.**

Some studies reported no indications of Stone or Iron Age sites / artefacts although did mention the presence of graves and historical heritage resources (e.g. De Jong 2002; Van Schalkwyk 2002 immediately south of the current study area; SAHRIS case number 2779 some five kilometres to the south east). Other studies identified no heritage resources at all (e.g. Coetzee 2006 immediately south of the current study area; Küsel 2007 approximately fifteen kilometres south west; SAHRIS case number 3492 approximately seven kilometres south east). One report was not located on the SAHRA & SAHRIS databases (Van der Walt 2008) or contained no relevant heritage information (e.g. SAHRIS case number 1628). One report for a platinum metals prospecting project one kilometre to the south and two kilometres to the north-east had a fauna and flora report in place of the listed heritage report (SAHRIS case number 728). One case, a proposed bridge a kilometre to the north-east, included a request for exemption from a specialist heritage study as the footprint of the project was minimal (SAHRIS case number 1628).

Van Vollenhoven (1992) carried out a survey overlapping the current study area and identified Iron Age remains including stone walling which he described as Late Iron Age dating to between 1500 A.D. and 1850 A.D. De Jong (2002) carried out a survey for a quarry some five kilometres to the south of the current study area and noted the presence of an informal graveyard and farm workers houses dating to between 1930 and 1960 while SAHRIS case number 2779

recorded another informal graveyard approximately five kilometres to the south east. In a survey for a proposed mining area some ten kilometres to the west of the current study area Van Schalkwyk (1998) documented a large number of heritage resources including Middle Stone Age lithics (surface scatterings out of context), a rock shelter with paintings and stone-walled Late Iron Age sites some of which were extensive and characterised by terracing. In a survey for a borrow pit approximately fifteen kilometres to the east Huffman (2001) recorded a Late Iron Age settlement possibly associated with the nearby and well known KwaMnyamana complex.

4.1.1 Archival and Historic Maps of the Study Area and Surrounding Landscape

First Edition of the 2528CA Topographical Sheet

The relevant section of the First Edition of the 2528CA Topographical Sheet is depicted below. The map was surveyed in 1939 and 1940 and drawn by the Trigonometrical Survey Office during 1943. Field revision was undertaken in June 1943 by the 45 Survey Company of the South African Engineering Corps. This particular sheet was reprinted by the Government Printer in 1953. The following observations can be made from the map:

- At the time the study area and surrounding landscape comprised farmland with no evidence of the industrial development which characterises this area at present. The implication is that the development of the study area would have occurred after 1943.
- No heritage sites or features are depicted within the study area.

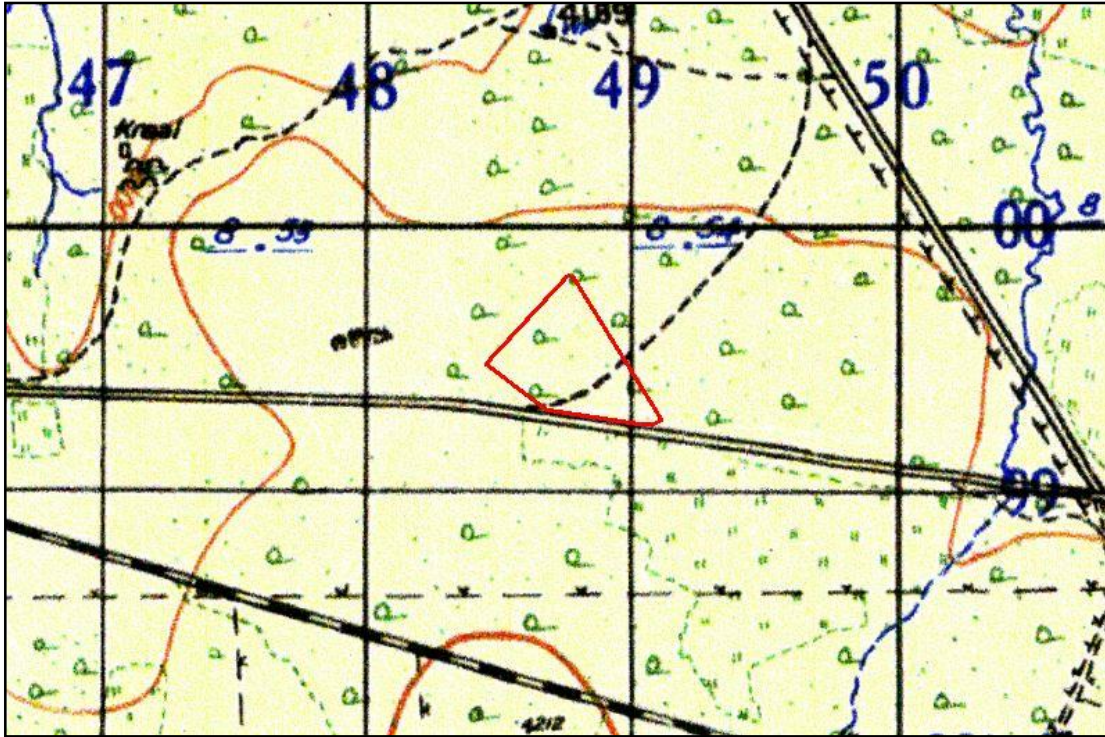


Figure 3: Section of the First Edition of the 2528CA Topographical Sheet. The study area is shown in red.

Based on information that is presently available, the study area comprises the old motor vehicle assembly plant of Nissan. A short historic timeline of this factory is provided below:

- In 1959 Messrs. Werner Ackermann and Thys Bekker started importing Datsun vehicles to South Africa (Beeld, 9 March 2009). According to the Business Day (18 August 1986) these early vehicles were assembled in Durban.
- In 1963 the company Datsun Nissan was established by Ackermann and Bekker. In the same year a plant was built at Rosslyn (Beeld, 9 March 2009).
- In 1965 production commenced at the newly constructed plant at Rosslyn with a 60 vehicle-a-month capacity (Business Day, 18 August 1986).

4.1.2 Palaeontology

The SAHRIS online database (<http://www.sahra.org.za/sahris>) was accessed and the Palaeontological Sensitivity Map was consulted. This map is colour coded to indicate the varied palaeontological sensitivities across the country. The following guidelines/recommendations are provided in table 4 regarding the palaeontological sensitivity for each identified colour.

Table 4: Palaeo Sensitivity Map Action Guideline.

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.



Figure 4: Palaeontological Sensitivity Map of the study area

It was found that the palaeontological sensitivity for the study area was insignificant/zero and that no palaeontological studies are required.

4.1.3 Findings of the heritage research

The findings can be compiled as follows and is combined to produce a heritage sensitivity map for the project:

Palaeontology

It was found that the palaeontological sensitivity for the study area was insignificant/zero and that no palaeontological studies are required.

Archaeology

The proposed site was disturbed due to the development of the Rosslyn Ext1 Industrial area as well as the development of the old Nissan Vehicle Assembly Plant that was constructed on Erf 72 during the mid 1960's. No archaeological sites or finds were recorded at the specified study area.

Historical

Again, the proposed site was disturbed due to the development of the Rosslyn Ext1 Industrial area as well as the development of the old Nissan Vehicle Assembly Plant that was constructed on Erf 72 during the mid 1960's. These buildings and structures were not older than 60 years and did not have any heritage value or significance. No other structures or buildings of historical value or significance were identified.

4.1.4 Field work findings

A survey of the proposed study area was conducted on 09 April 2014. The fieldwork consisted of a walk down of the open areas alongside the previously constructed Nissan Assembly Plant by an archaeologist and an assistant from PGS.



Figure 5: Track logs across the study area.

No sites or finds of any heritage value or significance was identified.



Figure 6: View of an open area on the western extent of the proposed site



Figure 7: View of some of the structures from the old Nissan Plant



Figure 8: View of a section of the existing old plant.



Figure 9: View of ongoing construction at the northern extent of the proposed site

4.1.5 Heritage Sites

No sites or finds of any heritage value or significance were identified.

5 IMPACT ASSESSMENT

5.1 Impact Matrix

5.1.1 Chance finds

The proposed site was disturbed due to the development of the Rosslyn Ext1 Industrial area as well as the development of the old Nissan Vehicle Assembly Plant that was constructed on Erf 72 during the mid 1960's. No archaeological sites or finds were recorded at the specified study area during the field survey. All heritage related possible sites or finds (if any) were most probably damaged and destroyed during the previous developments.

5.1.2

Known Heritage Sites

No sites or finds of heritage value and significance were identified during the desktop study as well as during the field survey. The proposed site was disturbed during the development of the Rosslyn Ext1 Industrial area as well as the development of the old Nissan Vehicle Assembly Plant that was constructed on Erf 72 during the mid 1960's.

5.1.3

Palaeontology

It was found that the palaeontological sensitivity for the study area was insignificant/zero and that no palaeontological studies are required. It is believed that no sites or finds of palaeontological value or significance will be identified at the indicated study area.

5.2 Confidence in Impact Assessment

Due to the disturbed nature of the proposed site due to the development of the Rosslyn Ext 1 Industrial area and the development of the old Nissan Vehicle Assembly Plant it is foreseen that no other finds of heritage value or significance will be made at the indicated study area.

5.3 Cumulative Impacts

None foreseen

5.4 Reversibility of Impacts

No sites or finds of any heritage value or significance were identified. There will be no impact on any heritage sites or finds at the indicated study area.

6 CONCLUSIONS AND RECOMMENDATIONS

The background research, that forms part of the HIA, has shown that the area surrounding the indicated study area had a rich and long history. Van Vollenhoven (1992) carried out a survey overlapping the current study area and identified Iron Age remains including stone walling which he described as Late Iron Age dating to between 1500 A.D. and 1850 A.D.

De Jong (2002) carried out a survey for a quarry some five kilometres to the south of the current study area and noted the presence of an informal graveyard and farm workers houses dating to between 1930 and 1960 while SAHRIS case number 2779 recorded another informal graveyard approximately five kilometres to the south east. In a survey for a proposed mining area some ten kilometres to the west of the current study area Van Schalkwyk (1998) documented a large number of heritage resources including Middle Stone Age lithics (surface scatterings out of context), a rock shelter with paintings and stone-walled Late Iron Age sites some of which were extensive and characterised by terracing. In a survey for a borrow pit approximately fifteen kilometres to the east Huffman (2001) recorded a Late Iron Age settlement possibly associated with the nearby and well known KwaMnyamana complex.

No heritage sites or finds of heritage value or significance was identified during the field survey.

It was also found that the palaeontological sensitivity for the study area was insignificant/zero and that no palaeontological studies are required. It is believed that no sites or finds of palaeontological value or significance will be identified at the indicated study area.

It is therefore recommended that the proposed construction of the Iveco Vehicle assembly Plant and waste management facility can continue from a heritage point of view.

7 REFERENCES

Van Vollenhoven, A.C. 1992. **PWV7 Route: Basiese Beplanning: Argeologiese Verslag.** An unpublished report by Archaetnos CC on file at SAHRA as 1992-SAHRA-0011.

Van Schalkwyk, J.A. 1998. **A Survey of Cultural Resources in the Proposed Mining Area on the Farm Hoekfontein.** An unpublished report by the National Cultural History Museum on file at SAHRA as 1998-SAHRA-0052.

Huffman, T.N. 2001. **Archaeological Assessment of Borrow Pit 33, N4 Platinum Toll Road.** An unpublished report by Archaeological Resources Management on file at SAHRA as 2001-SAHRA-0126.

Van Schalkwyk, J.A. 2002. **Identification of Graves on the Farm Hartebeesthoek 301 JR, Akasia Municipal Area, Wonderboom District, Gauteng Province.** An unpublished report by the National Cultural History Museum on file at SAHRA as 2002-SAHRA-0098.

De Jong, R.C. 2002. **Heritage Scoping: Estension of Sabrix Quarry on Farm Boekenhoutkloof 315 JR, Pretoria.** An unpublished report by Cultmatrix CC on file at SAHRA as 2002-SAHRA-0159.

Coetzee, F.P. 2006. **Heritage Assessment of the Proposed Residential Development: Orchards Extension 25, Rosslyn, Tshwane Metropolitan Municipality, Gauteng.** An unpublished report by the University of South Africa on file at SAHRA as 2006-SAHRA-0065.

Küsel, U. 2007. **Cultural Heritage Resources Impact Assessment of Portions 259, 260, 266 and 267 of the Farm Rietfontein 485 JQ Madibeng North West Province.** An unpublished report by African Heritage Consultants CC on file at SAHRA as 2007-SAHRA-0559.

Van der Walt, J. 2008. **Archaeological Impact Assessment: Montana Park Extension 150, Holding 67 & 68 Montana AH, Pretoria, Gauteng Province.** An unpublished report by Matakoma-ARM Heritage Contracts Unit on file at SAHRA as 2008-SAHRA-0099.

Van der Walt, J. 2008. **Archaeological Impact Assessment on the Remainder of the Farm Wentzelrust 223 JR, Soshanguve, Gauteng Province.** An unpublished report by the Wits Heritage Contacts Unit on file at SAHRA as 2008-SAHRA-0545.