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ARCHAEOLOGICAL IMPACT ASSESSMENT

**Wachtenbietjeskop Eco
- Estate. Located on
portion 79 of the farm
Wachtenbietjeskop 506
JR, Bronkhorstspuit
Gauteng Province**

Version 1

19November 2007

Service provider



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HERITAGE CONTRACTS UNIT

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EXECUTIVE SUMMARY

As we know from legislation the surveying, capturing and management of heritage resources is an integral part of the greater management plan laid down for any major development or historic existing operation. With the proclamation of the National Heritage Resources Act 1999 (Act 25 of 1999), this process has been laid down clearly. This legislation aims to underpin the existing legislation, which only addresses this issue at a glance, and gives guidance to developers and existing industries to the management of their Heritage Resources.

This document forms part of the Environmental Impact Assessment for the proposed development of Wachtenbietjeskop Eco Estate on Portion 79 of the farm Wachtenbietjeskop 506 JR, Bronkhorstspuit, Gauteng.

The following outline the findings of the report:

During the survey four sites of heritage significance was found. None of these sites except for site **MHC003** falls within the footprint of the development and no direct impact is foreseen on sites **MHC001**, **MHC002** and **MHC004**. Although site **MHC003** falls within the development it was indicated by the developer that the main dwelling will not be destroyed but rather incorporated into the development. It is therefore recommended that:

- The site is older than 60 years and therefore protected by legislation. Impact on the site is seen as low since the dwelling will be utilized and incorporated into the development, the structure has been greatly altered over the years that further diminish the heritage significance of the site. However, since the structure is protected by legislation an alteration permit will be needed from SAHRA if any alteration to the structure is envisaged by the developer.

General

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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1. INTRODUCTION

MATAKOMA-ARM Heritage Contracts Unit was contracted by Developlan Town and Regional Planners to conduct an Heritage Assessment on the footprint for the proposed development of Wachtenbietjeskop Eco Estate, Portion 79 of the farm Wachtenbietjeskop 506 JR, Bronkhorstspuit, Gauteng.

The aim of the study is to identify all heritage sites, document, and assess their importance within Local, Provincial and national context. From this we aim 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.

The report outlines the approach and methodology utilised before and during the survey, which includes in Phase 1: Information collection from various sources and public consultations; Phase 2: Physical surveying of the area on foot and by vehicle; and Phase 3: Reporting the outcome of the study.

During the survey four sites of heritage significance was found. General site conditions and features on sites were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to SAHRA provincial office for scrutiny.

2. APPROACH AND METHODOLOGY

The aim of the study is to extensively cover all data available to compile a background history of the study area; this was accomplished by means of the following phases.

2.1 PHYSICAL SURVEYING

Due to the nature of cultural remains, the majority that occur below surface, a physical walk through of the development area was conducted. The study area was surveyed over one day, by means of vehicle and extensive surveys on foot.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area were studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. All sites discovered both inside and bordering the proposed development area was plotted on 1:50 000 maps and their GPS co-ordinates noted. 35mm photographs on digital film were taken at all the sites.

3. WORKING WITH LEGISLATION

It is very important that cultural resources be evaluated according to the National Heritage Recourse Act. In accordance with the Act, we have found the following:

These sites are classified as important based on evaluation of the National Heritage Recourses Act 1999 (Act No 25 of 1999) section 3 (3).

A place or object is to be considered part of the national estate if it has cultural significance or other special value because of-

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;

- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

(Refer to Section 9 of this document for assessment)

These sites should be managed through using the National Heritage Recourses Act 1999 (Act No 25 of 1999) sections 4,5 and 6 and sections 39-47.

Please refer to Section 9 for Management Guidelines.

4. ASSESSMENT CRITERIA

This chapter describes the evaluation criteria used for the sites listed below.

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

D - Preserve site

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

4.1 IMPACT

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

4.1.1 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 against impacts.

4.2 EVALUATION

4.2.1 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.

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	Grade	High Significance	Mitigation (Part of site

(LS)	3B		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.C)	-	Low Significance	Destruction

4.2.2 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 are 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.

4.2.3 Certainty

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

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

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

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

4.2.4 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

5. HISTORICAL BACKGROUND OF AREA

As heritage surveys deal with the locating of heritage resources in a prescribed cartographic landscape, the study of archival and historical data, and especially cartographic material, can represent a very valuable supporting tool in finding and identifying such heritage resources.

The historical background and timeframe can be divided into the Stone Age, Iron Age and Historical timeframe. These can be divided as follows:

5.1 STONE AGE

The Stone Age is divided in Early; Middle and Late Stone Age and refers to the earliest people of South Africa who mainly relied on stone for their tools.

Earlier Stone Age: The period from \pm 2.5 million yrs - \pm 250 000 yrs ago. Acheulean stone tools are dominant.

Middle Stone Age: Various lithic industries in SA dating from \pm 250 000 yrs – 22 000 yrs before present.

Later Stone Age: The period from \pm 22 000-yrs before present to the period of contact with either Iron Age farmers or European colonists.

5.2 IRON AGE

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. Similar to the Stone Age it can be divided into three periods:

The Early Iron Age: Most of the first millennium AD.

The Middle Iron Age: 10th to 13th centuries AD

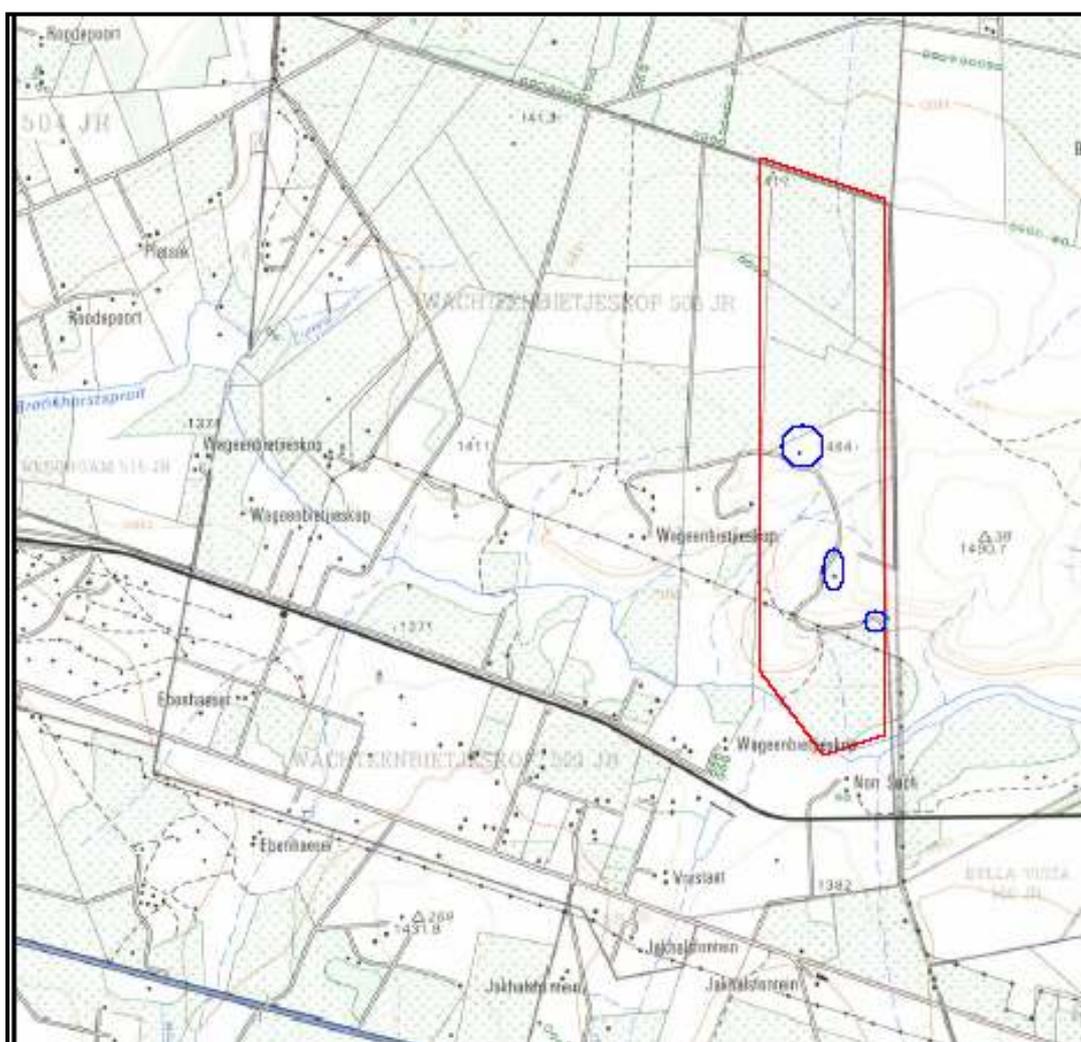
The Late Iron Age: 14th century to colonial period.

5.3 HISTORIC TIMEFRAME

17th Century to present AD (1600 – 2000)

The historic timeframe intermingles with the later parts of the Stone and Iron Age, and can loosely be regarded as times when written and oral recounts of incidents became available.

Archival maps indicated several structures within the study area. All these structures were found during the field survey but all of them are highly dilapidated and of low significance except for site **MHC003**.



• Figure 1: The map depicted here is the third edition of the 2528DD sheet and dates to 1984



• Figure 2: The map depicted here is the first edition of the 2528DD sheet and dates to 1941

6. SITES OF SIGNIFICANCE

6.1 2528DD-MHC001

Description of Site: Site Number			
Map reference	Topo-sheet number	Number of Map in report	
	2528DD	Annexure B	
GPS coordinates: <i>Indicate Model and datum - WGS 84</i>	X	Y	
Garmin 38, WGS 84	-25.80660544	28.82414117	
Site Data	Description		
Type of site (e.g. open scatter; shell midden, cave /shelter);	This is the location of a informal cemetery consisting of approximately 18 graves. The graves are aligned east west and by the size of the grave dressings several children graves is also present. Of the 18 graves 13 have cement headstones with weathered inscription with black paint while the remaining 5 graves consist of stone dressings.		
Site categories (e.g. Earlier Stone Age, Late Iron Age);	Informal Cemetery		
Context (i.e. primary or secondary);	Primary		
<i>Cultural affinities, approximate age and significant features of the site;</i>	Oldest visible date is 1949 but it can be assumed that the stone packed graves might be older		
Estimation or measurement of the extent (maximum dimensions) of the site(s);	Site is approximately 10m x 10m		
Depth and stratification of the site (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible		

<p>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</p>	<p>None</p>				
<p>Photographs and diagrams (Figure numbers)</p>	 <p>Figure 3: General view of site</p>				
<p>Statement of Significance (Heritage Value)</p>	<p>The site is of high heritage significance.</p>				
<p>Field Rating (Recommended grading or field significance) of the site:</p>	<p>Generally protected (GP.A)</p>				
<p>Impact Evaluation of development on site</p>	<p>Impact on site is seen as possibly low negative, since the site falls outside of the present footprint of the design layout. The site is fenced off with an access gate for family members.</p>				
<p>Recommendations including:</p>	<p>It is recommended that the site be preserved and fenced of with an access gate for family members. If this is not possible extensive mitigation will be needed on this site..</p>				
<p>Summary</p>					
<p>Field Rating</p>	<p>Impact</p>	<p>Impact Significance</p>	<p>Certainty</p>	<p>Duration</p>	<p>Mitigation</p>
<p>Grade GP.A</p>	<p>Negative</p>	<p>Low</p>	<p>Possible</p>	<p>Long term</p>	<p>A</p>

6.2 2528DD-MHC002

Description of Site:			
Site Number			
Map reference	Topo-sheet number	Number of Map in report	
	2528DD	Annexure B	
GPS coordinates: <i>Indicate Model and datum - WGS 84</i>	X	Y	
Garmin 38, WGS 84	-25.80621296	28.82604042	
Site Data	Description		
Type of site (e.g. open scatter; shell midden, cave /shelter);	Open site		
Site categories (e.g. Earlier Stone Age, Late Iron Age);	Possible Late Historic / recent farming labour dwelling		
Context (i.e. primary or secondary);	Primary		
<i>Cultural affinities, approximate age and significant features of the site;</i>	The site is highly overgrown and only a few cultural features are visible. The site consists of the foundations of a rectangular structure interpreted as a farm labourer dwelling. The south western corner of the dwelling is the best preserved and extend approximately one meter high. The dwelling is constructed of the abundance of stone scattered around the area and a mixture of mud and cement or lime is used as mortar. Associated with the structure is a stone walled cattle kraal measuring approximately 30 meters in diameter.		
Estimation or measurement of the extent (maximum dimensions) and orientation of the site(s);	The site is approximately 40m x 45m		
Depth and stratification of the site (where shovel test permits have been given), both in the text and through photographs of the sections;	None determined		

<p><i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i></p>	<p>None</p>
<p>Photographs and diagrams (Figure numbers)</p>	 <p><i>Figure 4: Rectangular stone dwelling</i></p>



Figure 5: Stone walling

<p>Statement of Significance (Heritage Value)</p>	<p>The site is of low heritage significance due to the poor state of preservation of the site</p>				
<p>Field Rating (Recommended grading or field significance) of the site:</p>	<p>Generally protected (GP.C)</p>				
<p>Impact Evaluation of development on site</p>	<p>Impact on site is seen as possibly low negative, since the site falls outside of the present footprint of the design layout.</p>				
<p>Recommendations including:</p>	<p>No Further action necessary</p>				
<p>Summary</p>					
<p>Field Rating</p>	<p>Impact</p>	<p>Impact Significance</p>	<p>Certainty</p>	<p>Duration</p>	<p>Mitigation</p>
<p>Grade GP.C</p>	<p>Negative</p>	<p>Low</p>	<p>Possible</p>	<p>Long term</p>	<p>C</p>

6.3 2528DD-MHC003

Description of Site:			
Site Number			
Map reference	Topo-sheet number	Number of Map in report	
	2528DD	Annexure B	
GPS coordinates: <i>Indicate Model and datum - WGS 84</i>	X	Y	
Garmin 38, WGS 84	-25.80300227	28.82305697	
Site Data	Description		
Type of site (e.g. open scatter; shell midden, cave /shelter);	Open scatter		
Site categories (e.g. Earlier Stone Age, Late Iron Age);	Possible Late Historic farm house		
Context (i.e. primary or secondary);	Primary		
<i>Cultural affinities, approximate age and significant features of the site;</i>	This is the location of a old farm house and associated out buildings. Currently the site is inhabited by the farm workers although the outbuildings is not used and are dilapidated. The main structure is built with stone foundations. As the structure is inhabited access was restricted.		
Estimation or measurement of the extent (maximum dimensions) of the site(s);	Main dwelling is approximately 20m x 30m		
Depth and stratification of the site (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible		
<i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i>	None		

Photographs and diagrams (Figure numbers)



•Figure 6:: Main dwelling viewed from the south east



•Figure 7:: Dilapidated outbuildings

<p>Statement of Significance (Heritage Value)</p>	<p>The site is of medium heritage significance.</p>
<p>Field Rating (Recommended grading or field significance) of the</p>	<p>Generally protected (GP.B)</p>

site:					
Impact Evaluation <i>of development on site</i>	Impact on site is seen as positive, since the site will be restored and incorporated into the development .				
Recommendations <i>including:</i>	The main dwelling is older than 60 years and therefore protected by legislation. A Alteration permit will be required from SAHRA if the building is modified for the development. It was indicated by the developer that the building will not be destructed.				
Summary					
Field Rating	Impact	Impact Significance	Certainty	Duration	Mitigation
Grade GP.B	Negative	Low-medium	Possible	Long term	B

6.4 2528DD-MHC004

Description of Site: Site Number			
Map reference	Topo-sheet number	Number of Map in report	
	2528DD	Annexure B	
GPS coordinates: <i>Indicate Model and datum - WGS 84</i>	X	Y	
Garmin 38, WGS 84	-25.79678969	28.81982449	
Site Data	Description		
Type of site (e.g. open scatter; shell midden, cave /shelter);	Open air site		
Site categories (e.g. Earlier Stone Age, Late Iron Age);	Possible Historic period		
Context (i.e. primary or secondary);	Primary / secondary		
<i>Cultural affinities, approximate age and significant features of the site;</i>	This is the location of a highly disturbed stone walled site. The site consists of at least 1 rectangular stone walled dwelling and associated circular stone walled structures. A dirt road cuts through the site and several earth moving activities was concentrated around the ill defined stone walled structures. No evidence of ceramics or other cultural material was identified.		
Estimation or measurement of the extent (maximum dimensions) of the site(s);	Site measures approximately 80m x 30m		
Depth and stratification of the site (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible		
<i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i>	None		

Photographs and diagrams (Figure numbers)



Figure 8: Ill defined stone wall foundations

Statement of Significance (Heritage Value)	The site is of low heritage significance.				
Field Rating (Recommended grading or field significance) of the site:	Generally protected (GP.C)				
Impact Evaluation of development on site	Impact on site is seen as low negative, since the site is already disturbed to a large extend and no development will take place in this area.				
Recommendations including:	No further action is necessary for this site if no development take place in this area..				
Summary					
Field Rating	Impact	Impact Significance	Certainty	Duration	Mitigation
Grade GP.C	Negative	Low	Possible	Long term	A

7. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Although MATAKOMA-ARM surveyed the area as thorough as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

8. LEGAL AND POLICY REQUIREMENTS

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 developer's cost. Thus developers will be able to proceed without uncertainty about whether work will have to be stopped if a heritage resource is discovered.

9. ASSESSMENT AND RECOMMENDATIONS

A map of Heritage Sites is provided in **Annexure A**

A summary of the recommendations for the sites identified:

During the survey four heritage sites of significance were found within the study area (**MHC001 – MHC004**). Of these four sites only site **MHC003** will be directly impacted upon by the proposed development. The following recommendations are applicable for the following sites.

MHC001

- The informal cemetery is already fenced off with an access gate for family members by the developer. No development or construction vehicles should be allowed within ten meters of the site.

MHC002

- The site falls outside the development area and no direct mitigation measures are applicable for the site. However no development or construction vehicles should be allowed within ten meters of the site.

MHC003

- The site is older than 60years and therefore protected by legislation. Impact on the site is seen as low since the dwelling will be incorporated into the development and utilized. However, since the structure is protected

by legislation a alteration permit will be needed from SAHRA if any alteration to the structure is envisaged by the developer.

MHC004

- The site falls outside the development area and is highly disturbed by ground moving activities. If the current dirt road is used as an access route to the development no further action is necessary.

General

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.

10. LIST OF PREPARES

Jaco van Der Walt, BA (Hon) Archaeology (WITS)

11. REFERENCES

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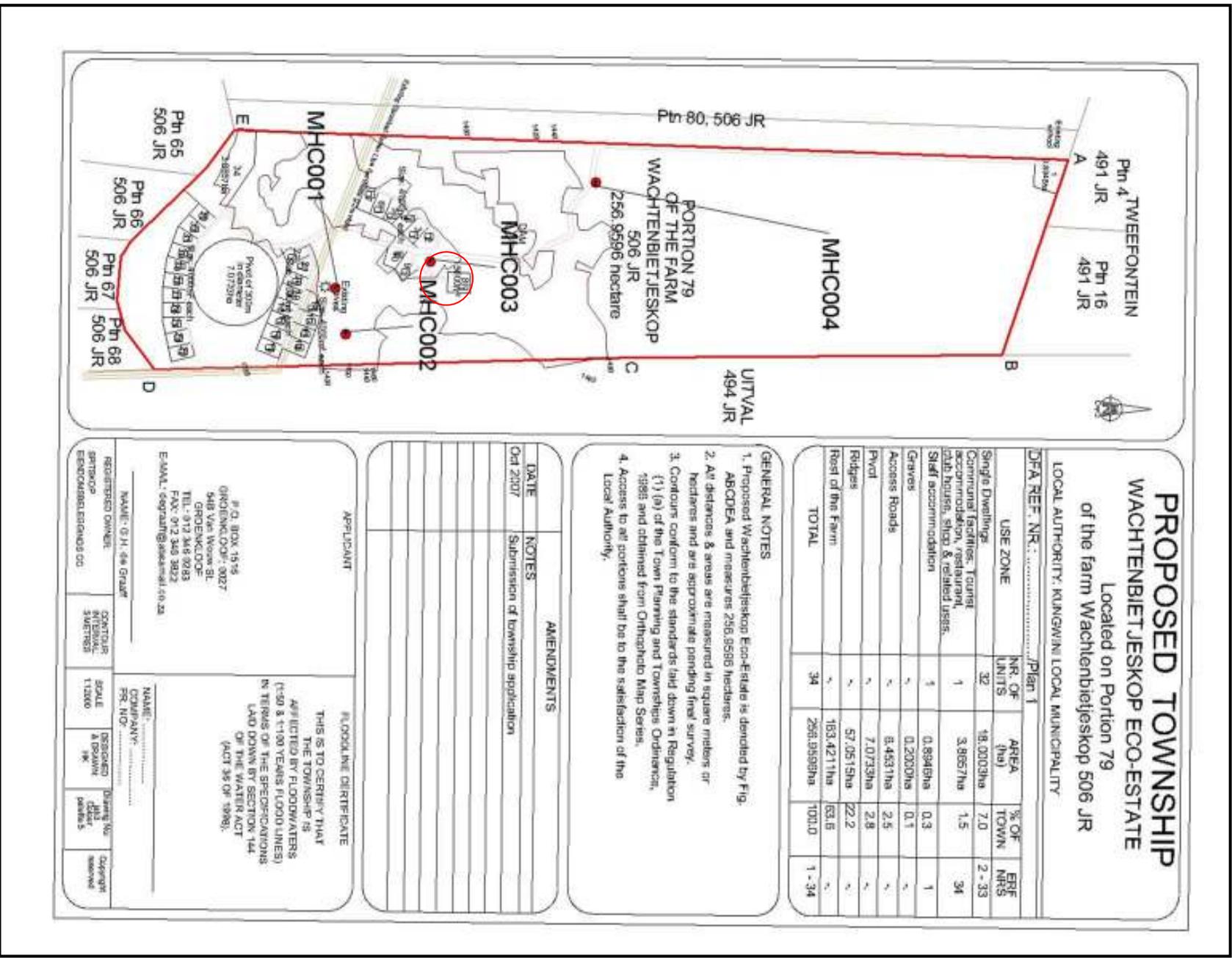
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ANNEXURE A: Locality and Site Maps



PROPOSED TOWNSHIP
WACHTENBIETJESKOP ECO-ESTATE
 Located on Portion 79
 of the farm Wachtendbietjeskop 506 JR

LOCAL AUTHORITY: KUNGWINI LOCAL MUNICIPALITY

DFA REF. NR.: / Plan 1

USE ZONE	NR. OF UNITS	AREA (ha)	% OF TOWN	ERF NRS
Single Dwellings	32	48,0003ha	7.0	2 - 33
Commercial facilities: Tourist accommodation, restaurant, club house, shops & related uses.	1	3,8957ha	1.5	34
Self accommodation	1	0,8948ha	0.3	1
Graves	-	0,2000ha	0.1	-
Access Roads	-	8,4531ha	2.5	-
Paved	-	7,0729ha	2.8	-
Ridges	-	57,0515ha	22.2	-
Rest of the Farm	-	183,4211ha	63.6	-
TOTAL	34	288,9598ha	100.0	1 - 34

- GENERAL NOTES**
- Proposed Wachtendbietjeskop Eco-Estate is denoted by Fig. ABCDEA and measures 256,9596 hectares.
 - All distances & areas are measured in square meters or hectares and are approximate pending final survey.
 - Contours conform to the standards laid down in Regulation (1) (a) of the Town Planning and Townships Ordinance, 1988 and obtained from Orthophoto Map Series.
 - Access to all portions shall be to the satisfaction of the Local Authority.

DATE	NOTES	AMENDMENTS
01/2007	Submission of township application	

APPLICANT

NAME: G. H. de Graaf

REGISTERED OWNER: G. H. de Graaf

CONTACT PERSON: G. H. de Graaf

PHONE: 012 345 5678

EMAIL: gdegraaf@kmgmunicipality.co.za

FLOODLINE CERTIFICATE

THIS IS TO CERTIFY THAT THE TOWNSHIP IS AUTHORIZED BY FLOOD/WATERS (1-50 & 1-100 YEARS FLOOD LINES) IN TERMS OF THE SPECIFICATIONS LAD DOWN BY SECTION 144 OF THE WATER ACT (ACT 36 OF 1988).

NAME: COMPANY: FR. NO:

SCALE: 1:12000

REGISTERED DRAWING NO:

DATE:

DATE OF ISSUE:

