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**PHASE 1**

**ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT**

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**INVESTIGATIONS FOR THE PROPOSED CONSTRUCTION OF A WATER  
STORAGE FACILITY IN THE MEULSPRUIT NEAR ROSENDAL AS  
WELL AS THE WATER PIPELINE TO SENEKAL WITHIN THE THABO  
MOFUTSANYANE DISTRICT OF FREE STATE PROVINCE**

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I, the undersigned, Mr. Ndivhuho Eric Mathoho hereby declare that I am a Professional archaeologist accredited with the association for South African Professional Archaeologist (ASAPA) Membership No 312 and that Vhufahashu Heritage Consultants is an independent consultants with no association or with no any other interest what so ever with any institution, organization, or whatever and that the remuneration earned from consulting work constitute the basis of Company livelihood and income.

Mr. Mathoho Ndivhuho Eric

Handwritten signature of Eric Mathoho in black ink, appearing as 'EM' followed by 'Mathoho Eric'.

.....  
Archaeologist and Heritage Consultant for Vhufahashu Heritage Consultants  
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## **EXECUTIVE SUMMARY**

**Note:** This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) for compiling a Phase 1 Archaeological Impact Assessment (AIA).

**Site name and location:** The proposed establishment of a water storage facility (Dam) and associated bulk water supply pipeline is located approximately 6 kilometers south west of Rosendal, the area is situated further south of Senekal Central Business District (CBD) in close proximity to Rosendal between Dihlabeng and Setsotso Local Municipalities of Thabo Mofutsanyane District, Free State Province, South Africa.

**Local Authorities:** Dihlabeng and Setsotso Local Municipalities

**Magisterial Authority:** Thabo Mofutsanyane District Municipality

**Developer:** Dihlabeng Local Municipality

**Date of field work:** 07- 09 September 2011

**Date of report:** September 2011

## **SURVEY AIMS AND ASSESMENT FINDINGS**

The Phase 1 Archaeological scoping study (Archaeological Impact Assessments) as required in terms of section 38 of the National Heritage Resource Act (Act 25 of 1999) was done for the proposed water storage facility establishment and associated bulk water supply pipeline infrastructures, between Dihlabeng and Setsotso Local Municipalities of the Free State Province.

The aims with the Phase1 Archaeological Impact Assessment (AIA) program were the following:

- To establish whether any of the type and ranges of heritage resources as outlined in section 3 of the National Heritage Resources Act (Act 25 of 1999) do occur in or near the proposed site, and if so, to establish the significance of these heritage resources.
- To establish whether such heritage resources will be affected by the proposed development activities, and if so, to determine possible mitigation measures that can be applied to these heritage resources.

The phase 1 heritage impact assessment survey for the proposed water storage facilities and associated bulk water pipeline establishment revealed approximately Eighteen (18) sites (see the table below) within the range of Historical sites characterized by historical structures and farm homesteads, archaeological and recent graves. Approximately eight graves had been identified on the proposed site.

The location details and the field survey findings are presented in a Table below.

<b>GRAVE SITES</b>	<b>GPS-CO-ORDINATES</b>	<b>CULTURAL HERITAGE SITE TYPE</b>
Site no. 05	S28°.53079 & E27°.87052	Grave/Site
Site no. 06	S28°.52756 & E27°.87086	Grave/Site
Site no.12	S28°.51704 & E27°.87551	Grave /Site
Site no.14	S28°.51476 & E27°.87641	Grave /Site
Site no.17	S28°.51474 & E27°.88312	Cluster of four graves/Site
<b>STONE WALLING &amp; ROCK SHELTERS</b>		
Site no. 01	S28°.53686 & E27°.87615	Rock Shelter/site
Site no.02	S28°.53686 & E27°.87615	Stonewall enclosure/site
Site no.03	S28°.53292 & E27°.87274	Stone wall/Site
Site no.08	S28°.52640 & E27°.87007	Stonewall enclosure/Site
Site no.09	S28°.51888 & E27°.87484	Stone wall enclosure/Site
Site no.10	S28°.51730 & E27°.87551	Stone quarry/Site
Site no.11	S28°.51704 & E27°.87551	Stone wall enclosure/Site
<b>HISTORICAL HOME STEAD &amp; FARM HOUSES</b>		
Site no.04	S28°.53177 & E27°.87132	Historical farm house/Site
Site no.07	S28°.52740 & E27°.86965	Home stead/Site
Site no.013	S28°.51557 & E27°.87555	Home stead remains/Site
Site no.015	S28°.49203 & E27°.88243	Home stead/Site
Site no.016	S28°.50927 & E27°.88257	Farm home stead/site
Site no.018	S28°.52401 & E27°.88579	Old farm home stead/site

*Disclaimer: Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Vhufashu Heritage Consultants and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

## **ABBREVIATIONS**

AIA	Archaeological Impact Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
VHHC	Vhufa Hashu Heritage Consultants
LIA	Late Iron Age
SAHRA	South African Heritage Resources Agency

## DEFINITIONS

**Archaeological** Material remains resulting from human activities, which are in a state of disuse and are in, on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

**Chance Finds** Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

**Cultural Heritage Resources** Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and palaeontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

**Cultural Significance** The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

**Grave** A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery.

**Historic** Material remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

**In Situ material** *Material culture* and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

**Late Iron Age** this period is associated with the development of complex societies and state systems in southern Africa.

**Material culture** Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

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

## 1. INTRODUCTION

Dihlabeng Local Municipality commissioned studies for the proposed establishment of a water storage facility and associated bulk water supply pipeline infrastructures (see the affected farms on table 1 below). They appointed JIS Environmental Engineers to handle water and environmental aspects of the proposed project. JIS Environmental Engineers then appointed Vhufashu Heritage Consultants to conduct an Archaeological and Cultural Heritage Impact Assessment study as part of the Environmental Impact Assessment (EIA) for the proposed project.

The proposed activities form part of the development process, where application for Environmental Assessment Authorization must be completed. Archaeological Impact Assessment (AIA) report form part of a series of appendices prepared for Environmental Impact Assessment (Full EIA) Report to be submitted to the Department of Economic Development, Tourism and Environmental Affairs (DETEA) Free State Provincial Office in support of the application as amended by the National Environmental Management (NEMA) Act No. 107 of 1998. Information presented in this report form the basis of Archaeological resources assessment of the proposed project as the proposal constitutes an activity, which may potentially be harmful to heritage resources that may occur in the proposed demarcated area.

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (section 34), archaeological sites and material (section 35) and graves and burial sites (section 36). In order to comply with the legislation, the Applicant requires information on the heritage resources, and their significance that occur in the demarcated area. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

**Table 1.** This table shows the affected Farms by the proposed construction of a water storage facility in the Meulspruit as well as the water pipe line to Senekal.

Number	Farm Name	Portion	Development type
1	Morgenson 123	Agricultural /Res	Dam
2	Mamre 688	Agricultural/Res	Dam
3	Libertas 686	Agricultural /Res	Dam
4	Bethel 7	Agricultural/Res	Dam
5	Harmonie 689	Agricultural/Res	Dam
6	Philadelphia 402	Agricultural /Res	Dam
7	Elim 898	Res	Dam
8	Aletta 897	Res	Dam
9	Zerame 771	Res	Dam
10	Daniel 774	Res	Dam
11	Suurbult 775	Res	Dam
12	Erfdeel 772	Res	Dam
13	Bezuidenhuidkraal 14	Res	Dam
14	Daphney 682	Res	Pipeline
15	Rustoord 828	Res	Pipeline
16	Leliefontien 231	Res	Pipeline
17	Leliendal 459	Res	Pipeline
18	Rosendal 299	Res	Connection to WTW
19	Rondekraal 896	Res	Pipeline
20	Verdun 895	Res	Pipeline
21	Bezuidenhoutskraal 14	Res	Pipeline
22	Skuurvekop 187	Res	Pipeline
23	Botha's Rust 1343	Res	Pipeline
24	Driekuil 56	Res	Pipeline
25	Groenkloof 1000	Res	Pipeline
26	Bloemhof 1325	Res	Pipeline
27	Uitkyk 1328	Res	Pipeline
28	Anna's Rust 1325	Res	Pipeline
28	GoedeMoed 1326	Res	Pipeline
30	Hugo's Gift 1330	Res	Pipeline
31	Liberia 982	Res	Pipeline
32	Groot Taaiboschfontein 721	Res	Pipeline

33	Maclear 1358	Res	Pipeline
34	Kanaan 1358	Res	Pipeline
35	Esperanza 715	Res(1)	Pipeline
36	Orange Groove 422	1,2, Res	Pipeline
37	Pizgah 442	Res	Pipeline
38	Asem 146	Res	Pipeline
39	Three Fountains 196	1	Pipeline
40	Guarriekop 330		Pipeline
41	Tafelberg 319	Res	Pipeline
42	Tafelberg suid1058	1,2	Pipeline
43	Deput 298	Res	Connection to WTW
44	Three Fountains 196	1	Pipeline
45	Guarriekop 330		Pipeline
46	Tafelberg 319	Res	Pipeline
47	Tafelberg suid1058	1,2	Pipeline
48	Deput 298	Res	Connection to WTW



**In terms of the National Heritage Resources Act (1999) the following is of relevance:**

Type and ranges of heritage resources as outlined in section 3 of the National Heritage Resources Act (no 25 of 1999)

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the heritage resources that qualify as part of the national estate, namely:

- (a) Places, buildings structures and equipment of cultural significance;
- (b) Places to which oral tradition are attached or which are associated with living heritage;
- (c) Historical settlement and townscapes
- (d) Landscape and natural features of cultural significance;
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial ground including-
  - (I) Ancestral graves
  - (II) Royal graves and graves of traditional leaders
  - (III) Graves of victim of conflict
  - (IV) Graves of individuals designated by the minister by notice in the gazette;
  - (V) Historical graves and cemeteries; and
  - (VI) Other human remains which are not covered by in terms of the Human Tissue Act,1983(Act No 65 of 1983)
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including-
  - (I) object recovered from soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
  - (II) objects to which oral traditions are attached or which are associated with living heritage
  - (III) ethnographic art and objects;
  - (IV) military objects;
  - (V) objects of decorative or fine art;
  - (VI) object of scientific or technological interest; and
  - (VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, excluding those that are public records as defined in section1(xiv) of the National Archives of South Africa Act,1996(Act No 43 of 1996).

The National Heritage Resource Act (Act No 25 of 1999,Art 3)also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value... these criteria are the following:

- (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 organization of importance in the history of South Africa
- (i) Sites of significance relating to the history of slavery in South Africa.

## 1.1 BRIEF LEGISLATIVE REQUIREMENTS

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act No. 25 of 1999 apply:

### **a. Archaeology, paleontology and meteorites**

*35 (4) No person may, without a permit issued by the responsible heritage resources authority—*

*(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*

*(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*

*(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.*

### **b. Burial grounds and graves**

*36. (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—*

*(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*

*(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or*

*(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.*

### **c. Heritage resources management**

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

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

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

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

*(i) exceeding 5000m<sup>2</sup> in extent, or*

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

- (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
- (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;*
- (d) the re-zoning of a site exceeding 10 000m<sup>2</sup> in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

## **2. AIM OF STUDY**

The aim of this Archaeological Impact Assessment (AIA) Study was:

- To establish whether any of the type and ranges of heritage resources as outlined in section 3 of the National Heritage Resource Act (Act 25 of 1999) do occur in or near the proposed site, and if so, to establish the significance of these heritage resources.
- To establish whether such heritage resources will be affected by the proposed development activities, and if so, to determine possible mitigation measures that can be applied to these heritage resources.

### **2.1 Project Developers and Consultants**

Developers are encouraged to consider archaeological values in their project planning and design from the outset. This will minimize scheduling and budget difficulties at later stages. As Consultants in the archaeological assessment process, we are responsible for: (see *table 2*)

**Table 2.** Archaeological Assessment Process

1	Determining the presence of archaeological sites that may be adversely impacted by the proposed development, and evaluate their significance.
2	Identification of potential adverse impacts to archaeological sites protected under the National Heritage Resources Act No: 25 of 1999.
3	Assessing of the heritage significance of identified archaeological sites to assist in the development of appropriate mitigation strategies.
4	Make recommendations for avoidance or mitigation of protected or otherwise significant archaeological sites.
5	Reporting the results of these studies to the Heritage Authorities.

### **3. TERMS OF REFERENCE**

The **Terms of Reference** for the study were to:

- (I) Assess the significance of the known cultural resources within the borders of proposed development area, in terms of their historical, social, religious, aesthetic and scientific value.
- (II) Develop mitigation or control measures for impact minimization and cultural resources preservation.
- (III) Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

### **4. METHODOLOGY**

#### ***4.1 Physical Survey***

A site visit was undertaken and the proposed site was physical surveyed on foot and vehicle. The proposed site was visually inspected for any historical or archaeological material that may be impacted by the proposed establishment. The survey was conducted on 07-09<sup>th</sup> September 2011 by Mathoho Eric and Munyai Richard, The extent of the proposed area and corridors were determined as well as the extent of the areas to be affected by water storage facility such as dam wall, dam basin and associated bulk water pipeline activities during the development. A brief literature survey relating to Pre-

historical and historical context of previous completed projects within the study area was consulted. This includes archaeological data bases kept at the Heritage Resource Agency Office in Cape Town and the Local Museums. In addition, the proposed site was studied by means of a Google Map (2009) adopted from internet as well as 1:50 000 topographical map (see Appendix A) and the 1:250 000 map on which the proposed study area appears.

#### **4.2 Documentation**

All sites/find spots identified during foot surveys were documented. The documentation methodology includes digital photographs, captured by means of a Digital camera (Canon EOS1000D cameras). The descriptions as well as the physical environment of the proposed study area, which includes site layout and surround vegetation have been recorded on field note book. In cases where archaeological/historical and grave site/s were identified, documentation was envisaged with great attention to detail the site. All sites/find spots identified during the archaeological survey within and outside the development footprint corridors were geo-referenced mapped and plotted using a Global Positioning System (GPS) WGS84 datum (Garmin E-Trek Legend) and numbered accordingly.

#### **4.3 Restrictions**

It must be pointed out that heritage resources can be found in the unexpected places, it must also be borne in mind that survey may not detect all the heritage resources in a given project area. While some remains may simply be missed during surveys (observation) others may occur below the surface of the earth and may be exposed once development (such as the construction of the proposed facilities) commences.

### **5. ASSESSMENT CRITERIA**

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites were based on the following criteria:

- The unique nature of a site.
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc).
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site.
- The potential to answer present research questions.

### 5.1 Site Significance

The site significance classification standards as prescribed in the guideline and endorsed 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 as guidelines in determining the site significance for the purpose of this report.

The classification index is represented in the Table below.

**Table 3. Grading and rating systems of heritage resources**

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

## **5.2 Impact Rating**

### **a. VERY HIGH**

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) 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 VERY HIGH significance.

### **b. 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 (e.g. farmers) would be HIGH.

### **c. 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 the public or the specialist as constituting a fairly unimportant and usually short 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.

#### **d. 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 society as constituting a fairly important and usually medium 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 changes 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 living some distance away.

#### **e. 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 certain formation may be regarded as severe from a geological perspective, but is of NO SIGNIFICANCE in the overall context.

### **5.3 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 an 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 of the likelihood of an impact occurring.

### **5.4 Duration**

*SHORT TERM* : 0 – 5 years

*MEDIUM:* 6 – 20 years

*LONG TERM:* more than 20 years



**DEMOLISHED:** site will be demolished or is already demolished

### **5.5 Mitigation**

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified 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 required; and
- ✓ **D** – Preserve site

## **7. DESKTOP STUDY: ARCHAEOLOGICAL BACKGROUND AND HERITAGE.**

Maggs (1976) corroborated by Binnerman et al (2011) suggested that the archaeology of the study area remains unknown with very little systematic archaeological research conducted between Rosendal and Senekal area. Previous archaeological impact assessments conducted in the surrounding area coupled with various literature reviews from early travelers, explores and researchers has records of existence of cultural material remains from different periods. The study area boost the existence of Stone Age, Iron Age and Colonial periods (marked by graves and battle fields). These three periods have been studied in order to assess possible existence of archaeological heritage and material remains during the survey program.

### **7.1 .THE EARLY STONE AGE (ESA)**

The Early Stone Age spans a period of between 1.5 million and 250 000 years ago and refers to the earliest Homo *sapiens* predecessors who began making stone artifacts. Archaeological material finger prints (Stone tool artifacts) of these earliest periods have been found at Olduvai Gorge. This Gorge is located in Tanzania; the stone artifact industry was referred to as the Oldowan Industry. Most of the stone artifacts recovered were not neatly made and they were very crude in makings. The industries were later replaced by the Acheulian stone tool Industry which is attested to in diverse environments and over wide geographical areas. The Industry is characterized by large cutting tools mostly dominated by hand axes and cleavers. Bifaces emerged in East Africa more that 1.5 million years ago (mya) but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Iberian coast. The end products were astonishingly similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the

production of hand axes and cleavers perfectly suited to the available raw materials (Sharon 2009).

Archaeological records from the Orange Free State came primarily from cave fillings, small lakes or spring and karts accumulations few of which are older than 200,000 years. One of the remarkable finds was from the alluvial gravel of the Vaal River, which painted a picture of important faunas and collection of Acheulian artifacts that figured significantly in the archaeological exploration of south Africa, in contrast to alluvial histories which involves many variables operating over large basins, the sedimentary sequence of pans as well as spring site tend to be less difficult to interpret, the records is commonly localized in smaller area. The Florisbad spring which is located 46 kilometers north of Bloemfontein is one of the remarkable sites which provided an insight on the accumulation of fauna and associated artifacts which consist of un retouched middle Stone Age assemblages, well developed Oldwan type of acheulian, archaic homo sapien cranium, in general the Florisbad fauna belong to the early florisian (Butzer, 1984)

Early Stone Age of the Karoo includes the so-called "Victoria West industry". From as early as 1915, stone artifacts which were of a "peculiar character", referred to as hand-axes and tortoise-cores by Reginald A. Smith, were plentiful within the Victoria West district. The latter were only found in certain areas and the hand-axes occurred in conjunction with the cores or without them (Smith 1919). During the 1920's, A. Goodwin (1926 & 1946) identified the Victoria West stone artifacts industry, presumably referring to those artifacts with a "peculiar character" found within the district, the wider Karoo region, as well as along the Vaal River. They comprised mainly of stone artifacts that had been manufactured using a prepared core technique, and were regarded as being transitional between the Early Stone Age and Middle Stone Age. Recent research has established that the Victoria West cores were the "evolutionary step" towards the Levallois prepared core industry, indicating an outward spread of this technological change (Lycett 2009). Early Stone Age stone artifacts endure for long periods and generally occur as open air Surface scatters either as isolated occurrences or in large quantities and very rarely in association with other archaeological heritage, plant and material remains. One of South Africa's most remarkable Earlier Stone Age sites is Amanzi Springs, excavated by H.J. Deacon during the 1970's. The site produce large number of stone artifacts in association with wood and seeds materials, this remains possibly date to between 800 000 to 250 000 years old (Binnerman et al 2011).

## **7.2. MIDDLE STONE AGE (MSA)**

The large Early Stone Age hand axes and cleavers were replaced by smaller stone tools called the Middle Stone Age flake and blade industries. The Middle Stone Age spans a period from 250 000-30 000 years ago and focuses on the emergence of modern humans through the change in technology, behavior, physical appearance, art, and symbolism. Various stone artifact industries occur during this time period, although less is known about the time prior to 120 000 years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean 2008). Surface scatters of these flake and blade industries occur widespread across Southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artifacts to be found between the surface and approximately 50-80cm below ground. Fossil bone may be associated with MSA occurrences. These stone artifacts, like the Earlier Stone Age handaxes are usually observed in secondary context with no other associated archaeological material. An early South African Middle Stone Age stone artifact industry referred to as the Mangosian had a very wide distribution stretching across Limpopo, the eastern Orange Free State, around Cape Point and Natal (Malan 1949). This stone artifact industry, according to the period, may have represented the final development that the prepared core technique of the Middle Stone Age reached prior to its replacement by the microlithic techniques of the Later Stone Age. It was reported that these stone artifacts were made predominantly on indurate shale raw materials in the Free State (the then Orange Free State). Malan (1949) also made mention that there are variations of Middle Stone Age assemblages throughout South Africa (Binnerman et al, 2011).

## **7.3. IRON AGE / FIRST-FARMING COMMUNITIES**

The Early Iron Age first-farming communities during the first millennium AD generally preferred to occupy river valleys within the eastern half of southern Africa owing to the summer-rainfall climate that was conducive for growing millet and sorghum. This region sees a numerous stone walled structures as well as pottery dating between the 16th and 18th centuries, and it lies on a frontier zone, where hunter-gatherers came into contact with agro-pastoralists (Thorp 1996). Some settlements are not characterized by the presence of stone walls, but rather cattle dung deposits with pits and burials (Huffman 1982). The south-eastern Free State is a landscape of contact between migrating Iron Age first farming communities and San hunter-gatherers. During the sixteenth and eighteenth centuries the Iron Age farmers began to move across the Vaal River and into the Free State. As they moved into the area, the first-farming communities came into contact with

hunter-gatherers (Klatzow 1994). Thicker and decorated pottery sherds, kraals, possible remains of domesticated animals, upper and lower grindstones and storage pits are associated for identifying Early Iron Age sites. The sites are generally large settlements, but the archaeological visibility may in most cases be difficult owing to the organic nature of the homesteads. Metal and iron implements are also associated with Early Iron Age communities. Hilltop settlement is mainly associated with Later Iron Age settlement patterns that occurred during the second millennium AD. The Later Iron Age communities later moved from settlement in river valleys to the hilltops. Later Iron Age settlements have been formally recorded and cover a relatively extended area in comparison with the Early Iron Age (EIA) settlement patterns. Iron Age Settlements have been recorded along the Caledon River Valley, that were settled by the Fokeng group that eventually settled at Metlaeeng, after dwelling the foot of Ntsuana-tsatsi (between Frankfort and Vrede) (Walton 1953).

#### **7.4. ROCK ART (PAINTINGS AND ENGRAVINGS)**

Rock art is generally associated with the Later Stone Age period mostly dating from the last 5000 years to the historical period. It is difficult to accurately date the rock art without destructive practices. The Southern African landscape is exceptionally rich in the distribution of rock art which is determined between paintings and engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa. Rock engravings, however, are generally distributed on the semi-arid central plateau, with most of the engravings found in the Orange-Vaal basin, to the Karoo. At some sites both paintings and engravings occur in close proximity to one another especially in the Karoo and Northern Cape. The greatest concentrations of engravings occur on the basement rocks and the intrusive Karoo dolerites, but sites are also found on about nine other rock types including dolomite, granite, gneiss, and in a few cases on sandstone (Morris 1988).

The south-eastern Free State area has many recordings of cattle paintings and these are often depicted in conflict scenes. These include figures with the “hourglass” Sotho shields, which could refer to the Difaqane, where discord and unrest was prominent. There are very few paintings of sheep, and one such site is situated on the farm Kwartelfontein near Smithfield, and is found associated with depictions of cattle (Manhire et al. 1986: 24). Other rock art that has been recorded here includes men walking with hunting dogs painted in brick red ochre, on the farm Strathmere, Steynsburg District, which was traced

by Townley Johnson in 1983 (Woodhouse 1984:4). Paintings have also been documented in the Rouxville area, which include a depiction of a blesbok (Loubser *et al.* 1990: 108). Rock paintings of human figures occur in the Aliwal North District (Schoonraad 1960: 12). Maria Wilman recorded engraving sites between Colesburg and Middelburg (Parkington *et al.* 2008:33). Rock art of the Middelburg area includes a site with numerous styles such as fine-lined paintings of antelope and human figures, probably done by San individuals, as well as red, yellow, black, orange and white finger dots done in the Khoekhoen style. Other figures include medium-grained white chalky paints with red accents such as fat tailed sheep; two horse-and riders; a black rhinoceros; and two stretched-out and spotted animal skins or aprons (Ouzman. 2005: 106).

## **7.5. HISTORICAL / COLONIAL PERIOD**

Historical archaeology refers to the last 500 years when European settlers and colonialism entered into Southern Africa. The route between Graaff Reinet and Bloemfontein is the same route followed by Afrikaans pioneers of the Great Trek. There are various monuments, statues and memorials dedicated to the voyage and its people. The south-eastern Free State is filled with Boer War historical encounters, stories, and material remains. The areas surrounding Bloemfontein feature prominently in Boer War history. Colesburg is known for a number of historical events. A skirmish between the Boers and the Griquas, including Adam Kok (the head of the Philippolis Griquas) occurred in 1845 near Colesburg. One Griqua was killed and 6 captured, while five Boers had been killed and had gained 300 horses and 3600 heads of cattle (Walker 1938: 349). Near Colesburg at Alleman's Drift, Adam Kok, along with many British individuals, created a beacon declaring the whole country from that point to be British Territory, though not including areas that were in control by the Portuguese and native tribes. In the early days of colonialism the Karoo was still a sparse and unknown area. It was only until the early travelers and pioneer European farmers ventured into this harsh landscape and documented their encounters with the San hunter-gatherers and Khoekhoen that had originally inhabited the landscape. Therefore, the towns of the Great Karoo were established much later. Between the years 1860 and 1875, there was an increase of travels through the Karoo between Graaff Reinet, Middelburg and Colesburg, due to the improvement of the Frontier Wagon Track or Public Roads Network (Neville *et al.* 1994).

## **8. SITE LOCATION AND PROJECT DESCRIPTION**

The proposed establishment of a water storage facility and associated bulk water supply pipeline is located approximately 6 kilometers south west of Rosendal, the area is located

approximately 40 kilometres south of Senekal CBD, the proposed establishment of bulk water pipeline transverse through two local municipalities namely: Dihlabeng and Setsotso Local Municipalities within Thabo Mofutsanyane District Municipality, Free State Province.

The proposed project entails the following elements:

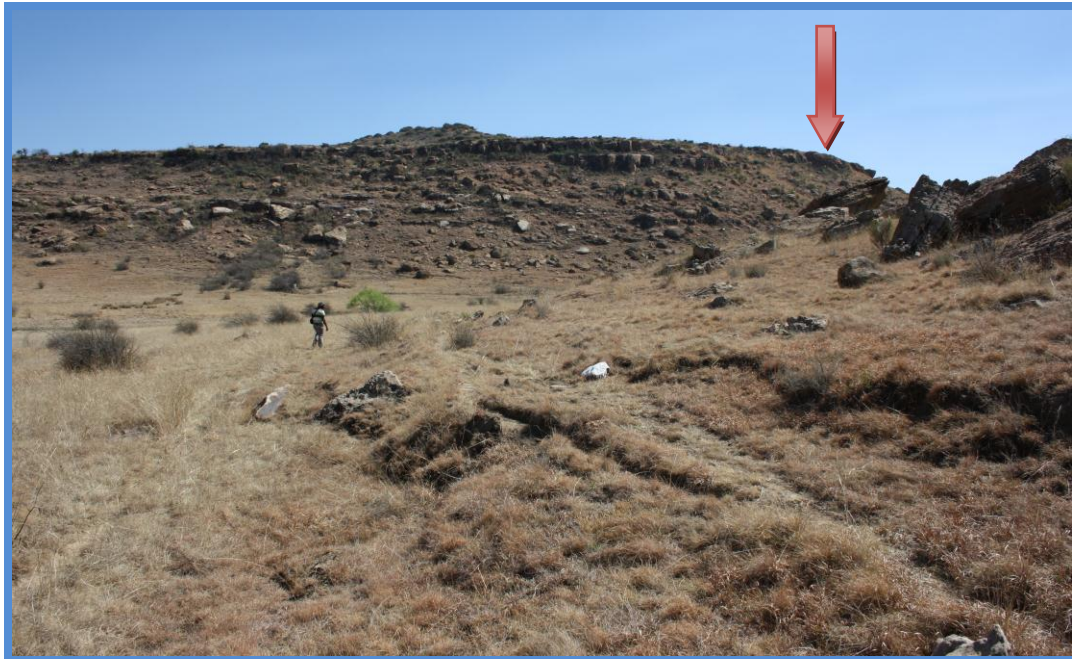
- Construction of new water storage facility with approximately 200meters wide earth dam wall across Meulspruit near Rosendal
- Establishment of a bulk water supply pipeline from the new water storage facility to existing Dihlabeng (Rosendal) water treatment works and the construction of a pipeline from Dihlabeng (Rosendal) to Senekal water treatment works in order to alleviate water shortages experienced within Senekal surrounding.
- The construction of outlet from the new water storage facility into the Meulspruit to supply Ficksburg with water when they experience water shortages.

#### **8.1. PROPOSED ESTABLISHMENT OF A WATER STORAGE FACILITY ACROSS MEULSPRUIT.**

Generally the area in which the proposed dam is located consists of a sand Stone Mountain range on both side of the Meulspruit with open valley plains currently covered by grass with riverine vegetation alongside the river bank. Besides old farm houses (Homesteads), stone walling ruins and their associated outbuildings, occasional lines of *Eucalyptus* trees and pockets of *Acacia mearnsii* tree species occurs throughout the dam basin. The proposed dam wall site is located on a river gorge and has been proposed to cover approximately 200meters wide connecting south and northern sand stone rocky out crop hill slopes. Here an earth dam wall will be constructed to the height of 19 meters. The proposed dam wall site Global Positioning System co-ordinates S28°.54071 &E 27°.87552.

The proposed dam wall and dam basin covers agricultural land, the area has been placed under agricultural potential influenced by the presence of lower lying areas, characterized by flat to undulated valley plains and the presence of Meulspruit The presence of good grass dominated by different grass species has been an addition to Agricultural potential. The proposed area encompasses farm land characterized by animal husbandry (livestock) while some of the farms have previous evidence of agricultural cultivation contours, an indication that these areas were subjected to previous cultivations activities. The proposed

project will affect several farms, some of the farms to be affected include: Morgenzon 123, Harmonie 689, Bethel 7, Philadelphia 402, Mamre 688, Libertas 686, Elim 898, Aletta 897, Zerame 771, Daniel 774, Suurbult 775, Erfdeel 772 and Bezuidenhuidkraal 14 (Figure 1 and 2)



**Figure 1:** View of the Meulspruit gorge (Morgenzon123 farm) where the proposed dam wall will be constructed indicated by an arrow located in between sandstone rocky outcrop area (GPS S28°.54071 & E 27°.87552).



**Figure 2:** View of the proposed dam basin towards the southern section

## **8.2. PROPOSED PIPELINE FROM MEULSPRUIT TO ROSENDAL AND FROM ROSENDAL TO SENEKAL**

The proposed bulk water supply pipelines have been proposed to cover approximately 40 kilometers. The proposed pipeline start from Dam, on the eastern side of the dam wall. The proposed pipeline route transverse along gravel road up until it connects with the main tarred road (R70) from Ficksburg to Rosendal.

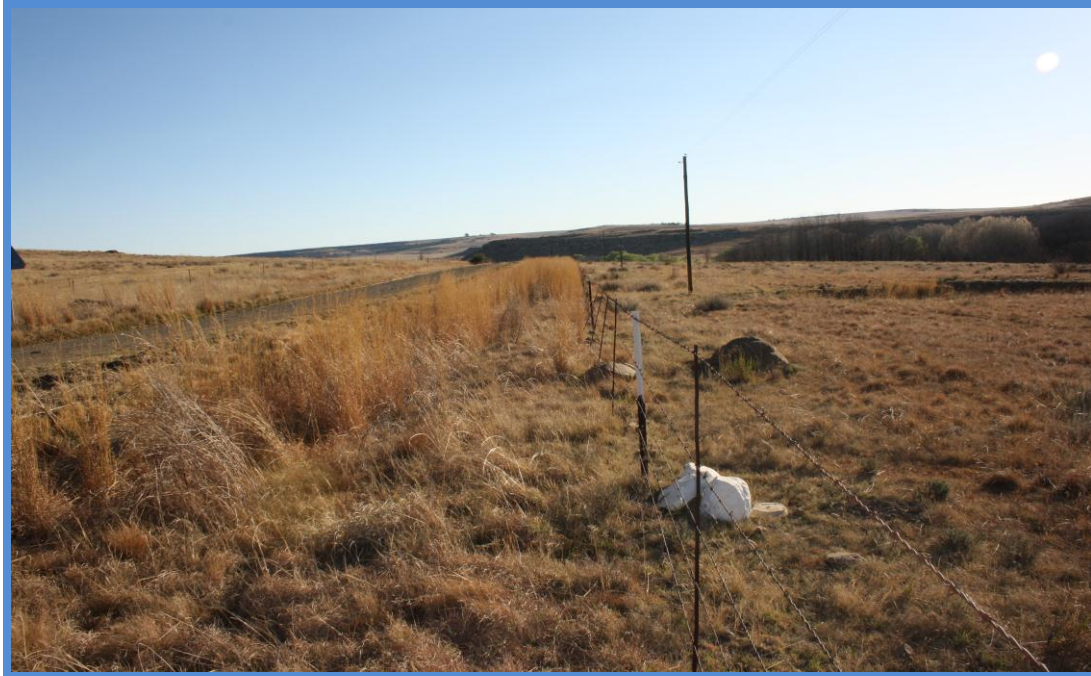
Just approximately 300 meters after the Rosendal and Mautse road intersections to the north of Road (R70)the proposed pipeline bifurcates towards Rosendal and to Senekal .To Rosendal the pipe line will transverses through the farm land either behind the existing power substation or in front of the power substation. The pipeline runs parallel existing gravel road, (Alcock Street) and parallel 11kv power line until it connects with the existing Dihlabeng Water Treatment Works. The proposed pipelines from the bifurcate transverses alongside the road up until the proposed pipeline route connects with the existing Senekal water treatment works located on farm Deput 298.

The geological influence of the area has given rise to pockets of vegetation species with dominated by shrubs and trees which includes: *Acacia mearnsii* *Rhus Leptodictya*, *Eucalyptus*, *prickle pear along the*

- proposed pipeline starting point on farm Morgenzon site global positioning system co-ordinates (GPS S28°.54071 & E27°.87552)
- proposed pipeline turning point on R70, from Rosendal, N5 from Bethlehem, to Senekal global positioning system co-ordinates (GPS S28°.30831 & E27°.68484)

The pipeline markings and the associated environment is shown in Figure 3, Figure 4 and Figure 5.

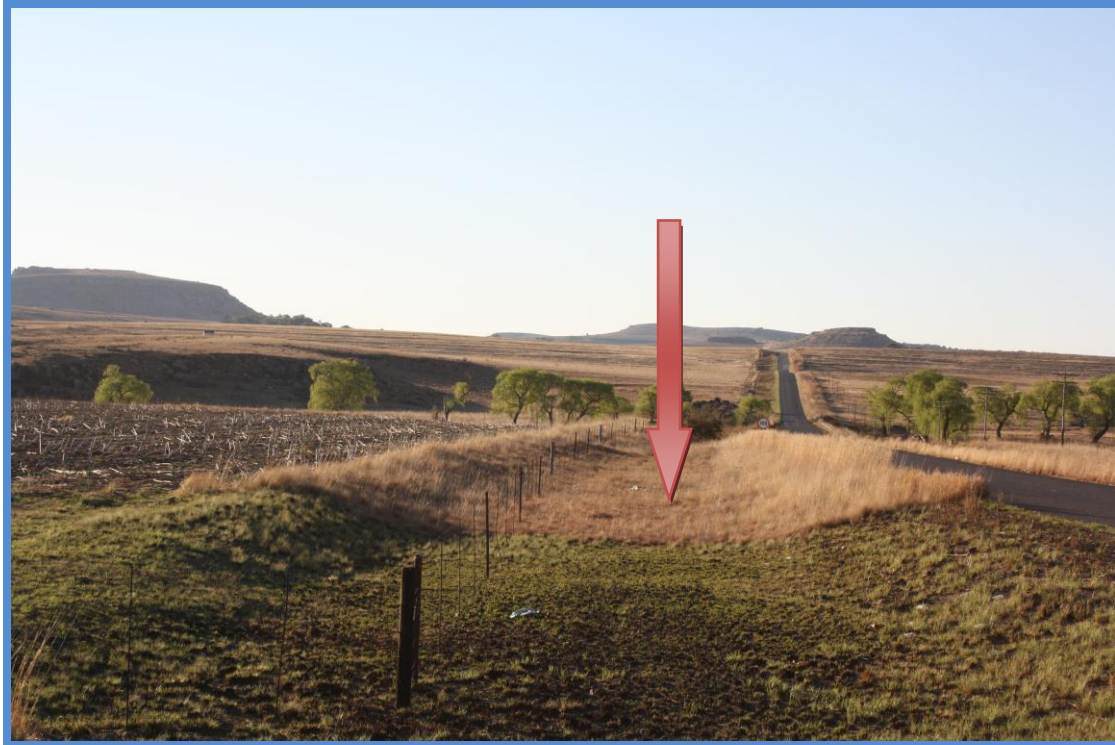




**Figure 3:** The proposed pipeline route has been marked, indicated by white washed stones north of the gravel road parallel the farm fence boundary.



**Figure 4:** View of the main tarred road and gravel intersection at a distance R70 from Rosendal to Ficksburg, the proposed pipeline have been earmarked parallel the tarred road still on the inside of the farm boundary fence.



**Figure 5:** The proposed pipeline route along the R70 from Rosendal to Senekal.

### **8.3. ROSENDAL (DEHLABENG) WATER TREATMENT WORKS**

Dihlabeng Water Treatment Work is located north eastern section of Regional road (R70) from Senekal to Ficksburg, within Rosendal Town. The site is situated on the eastern section of the existing water storage facility (earth dams), south of the eroded river bank in close proximity to existing clustered buildings. The area is characterized by existing single concrete reservoir with corrugated roof and fenced off purification house. The area is located at the following global positioning system co-ordinates (GPS S28°.49725 & E27°.92781).



**Figure 6:** View of Rosendal water purification plant characterized by concrete reservoirs and water treatment house.



**Figure 7:** View of the existing water treatment plant

#### **8.4. SENEKAL WATER TREATMENT WORKS**

The Senekal Water Treatment Works is located south of the Senekal Central Business District (CBD); the area is located in close proximity to Senekal industrial site located on farm De punt. The area is situated western section adjacent to Eskom power substation, characterized by a single story building with one concrete reservoir and galvanized store

room. The area is located at the following global positioning system co-ordinates (GPS S28°32741 & E27°62499).



**Figure 8:** View of the Senekal water treatment plant, the area is located at Senekal industrial site.

## **9. ASSESMENT OF SITES AND FINDS**

This section contains the results of the heritage sites/find assessment. The phase 1 heritage scoping assessment program as required in terms of the section 38 of the National Heritage Resource Act (Act 25 of 1999) was done for the proposed project.

### **9.1. THE WESTERN BANK OF MEULSPRUIT**

#### **9.1.1. (SITE001) ROCK SHELTER WITH REMAINS OF DELAPIDATED STONE WALL:**

The site is located at the following global positioning system co-ordinates (GPS S28°.53686 & E27°.87615).The area is situated approximately 250meters north east of the dam wall on the western bank of Meulspuit (within the proposed dam basin). The rock shelter is located further 80meters west of the linear pocket of Eucalyptus plantation (Plate 1 and plate 2).

The site is characterized by shelter with dilapidated remains of stone walling. The stone walling covers approximately 1metres long, constructed in a half circular form forming an

enclosure against the rock boulder. No associated cultural remains such as potsherds, rock paintings or historical artifacts were noted on the surface of the vicinity



**Plate 01:** Sandstone boulder where a rock shelter with dilapidated stone wall enclosure has been noted.



**Plate 02:** Rock shelter with section of the dilapidated stone wall enclosure.

### **9.1.2. (SITE002) STONE WALL ENCLOSURE**

The site is located at the following global positioning system co-ordinates (GPS S28°.53686 & E27°.87615). The area is situated on the bottom slope of the rocky ridge overlooking the Meulspuit flood plain, two isolated stone walling enclosures and the hollow sand stone were noticed.

- The first enclosure is located approximately 16 meters further north west of the identified hollow sand stone. The area is characterized by south facing sand stone rock boulders (Plate 3), with collapsed stone walling and a monolith stone still intact, possibly an indication that the entrance to the site was towards the western section facing the area proposed to be dam wall, the area covers 2 meters radius.
- The second enclosure (Plate 4) is located further west of the noted stone enclosure situated approximately 6 meters another line of stone walling enclosure was noted characterized by triangular form of stone walling with dilapidated section, a still intact stone walling section measured approximately 4 meters in length and 1 meter high. In between this two enclosures, quarried and polished sand blocks were noted at the bottom of the slope, an indication that some of the building materials were collected here. No associated cultural remains such as potsherds, rock paintings or historical artifacts were noted on the surface of the vicinity.

Just further south of the identified stone walling enclosures a single hollow sand stone was noted, the stone had similar features with some of the stones noted on top of Mapungubwe and Leokwe hill sites in the Limpopo Province which were interpreted and associated with rain making rituals (Plate 5).



**Plate 03:** View of the section of the collapsed stone wall



**Plate 04:** View of the still intact stone wall



**Plate 05:** View of the hollow sand stone noted on the lower lying area below the stone wall.

### **9.1.3. (SITE003) STONE WALL ENCLOSURE**

The site is located at the following global positioning system co-ordinates (GPS S28°.53292 & E 27°.87274). The third enclosure is located below the bottom slope, further approximately 100 meters north of the identified two stone walling enclosures. The area is characterized by displaced rock boulders that rest below the slope creating an open space in the middle, two separate stone walling have been noticed closing up with nearby rock boulders. Adjacent another stone enclosure covering approximately 60 X15 metres. The enclosures has an open central part presumably used to keep livestock. No associated cultural remains such as potsherds, rock paintings or historical artifacts were noted on the surface of the vicinity.





**Plate 06:** view of the stone wall closing access against the sand stone boulders.



**Plate 07:** Sections of one of the identified stone walling enclosure.

#### **9.1.4. (SITE004) HISTORICAL FARM HOUSE AND ASSOCIATED OUT BUILDINGS (HOME STEAD)**

The site is located at the following global positioning system co-ordinates (GPS S28°.53177 & E 27°.87132).The area is located approximately 500 meters north east of the Occasional line of *Eucalyptus plantation*. The site is characterized by existing big trees (presumed to be historical site marker), dilapidated, roundavel and rectangular house structure foundations. Further north of the structures at approximately 10 meters from the foundations a farm house structure occur, constructed out of well quarried sand stone shaped blocks packed on top of each other without the use of cement mixtures. From the inside of the historical house structure a mud and small size stone wall can be seen. Approximately 5 rooms were noted with each having its own outside entrance. Further north east of the main historical house and several outbuildings structures constructed out

of sand stone blocks were noted including an ablution block. Associated single grave have been noted on site see below for more detailed grave description.



**Plate 08:** View of the homesteads indicated by a house and associated out buildings Constructed out of sandstone blocks without and cements mixture.



**Plate 09:** Front and collapsed back view of the main building



**Plate 10:** The inside of the main house to the left and the entrance towards the southern section where Meulspruit is located.

#### **9.1.5. (SITE005) SINGLE GRAVE SITE**

Further north east of the main homestead and associated buildings, a well fenced off section of approximately 3x3 meters occur. Sands stone monoliths have been used as fencing corner post. The central part of the fenced off section is characterized by well constructed burnt stock bricks forming grave dressing outline. Currently the central part of grave dressing have been dug open creating a ditch in the middle section of the grave an indication that the area have been previously vandalized or disturbed. A cement chunk with zinc grooves impression markings have been on the surface. Two cent copper coin (dated 1981) has been noted on top of the surface area possibly grave goods offering. The site is located at the following global positioning system co-ordinates (GPS S28°.53079 & E 27°.87052).



**Plate 11:** View of the grave area located a distance from the main house.



**Plate 12:** The disturbed grave represented by open ditch, and broken cement rubble.

#### **9.1.6. (SITE006) SINGLE GRAVE SITE**

Further north east of the homestead and associated buildings, a well fenced off section of approximately 4x3 meters occur northeast of swamps and marshes area. The area is presumed to have been previously used as cultivated section of land indicated by visible agricultural contour bands. The site has been indicated by eight (8) sand stone monoliths blocks used as fencing corner post. The single grave occurs in the central part of the area indicated by sand stone outline with dilapidated sand stone headrest. No inscription on the headrest was noted, which helps to determine and establish the age of the grave. The site

is located at the following global positioning system co-ordinates (GPS S28°.52756 & E27°.87086).



**Plate 13:** View of the single grave located in the middle of the well fence off site.

#### **9.1.7. (SITE007) HOMESTEAD**

Just approximately 100metres further west of the identified grave, and abandoned cultivated land indicated by agricultural contour bands, a homestead occur in the middle of densely infested tall trees, the site occur south of the bottom slope overlooking the abandoned cultivating area and the Meulspruit. The site is located approximately 300metres from the identified historical farm homestead, characterized by a square shaped three roomed house, represented by foundation with section of dilapidated sand stone walls. The remains represented by free standing wall shows already observed architectural building techniques recorded from other homesteads ruins. No associated midden, potteries were noted on the surface of the site. The site is located at the following global positioning system co-ordinates (GPS S28°.52740 & E27°.86965).



**Plate 14:** View of the homestead represented by dilapidated house

#### **9.1.8. (SITE008) STONE WALL ENCLOSURE SITES**

Approximately 150 meters north east from the identified homestead (site 007) at the bottom slope of the ridge two separate square stone walling enclosure constructed against sand stone rock boulders were noted. Section of the stone wall measures 1 meter high. Above the identified rectangular stone wall enclosures a long stone wall line with three free standing monolith occur in the vicinity, possibly the line of stone represent a boundary separating residential with grazing area. The site is located at the following global positioning system co-ordinates (GPS S28°.52640 & E27°.87007).



**Plate 15:** View of the stone walling north east of the identified homestead

#### **9.1.9. (SITE009) STONE WALL ENCLOSURE SITES**

A circular stone wall enclosure covering approximately 10metres radius was noted, with sections of the parked stone wall covering approximately 1.2 meters high, with thickness of approximately 1meter. The stone walling rest at the bottom of the slope against the slope cliff and rock boulder with dilapidated sections. The central part of the stone walling is open with pine trees. A rectangular well carved sand stone was noticed at the main entrance to the enclosure. The site is located at the following global positioning system coordinates (GPS S28°.51888 & E27°.87484).



**Plate 16:** Section of the stone wall enclosure constructed against the boulders and Cliff overlooking the Meulspruit.

#### **9.1.10. (SITE010) SAND STONE QUARRY SITE**

The site is situated north east of the existing *Eucalyptus* plantation that occur north of the Meulspruit, located not far from the identified stone enclosure site with a big pine tree at the central part of the enclosure (site 009). The area is characterized by concentrations mounds of discarded sand stone flakes and core and displaced sand stone rock boulders. The site might have been used for quarrying sand stone blocks noted in close proximity used for house, fencing post and marking graves and other construction related activities. The site is located at the following global positioning system co-ordinates (GPS S28°.51730 & E27°.87551).





**Plate 17:** Discarded chunks of the sandstone rock produced during the sand stone blocks manufacturing process.

#### **9.1.11. (SITE011) STONE WALL ENCLOSURE SITES**

Just several meters from the quarry site a circular stone enclosure occur, enclosing sandstone rock boulders, the circular stone walling measures approximately 10 meters radius, half a meter height and 10meters long. The site is located at the following global positioning system co-ordinates (GPS S28°.51704 & E27°.87551).



**Plate 18:** View of the stone walled enclosure where a single grave was noted in the middle section.

### 9.1.12. (SITE012) SINGLE GRAVE SITE

Within this stone walling enclosure within the central part, a single grave occur indicated by oval parked stones outline as grave dressings. The site is located at the following global positioning system co-ordinates (GPS S28°.51704 & E27°.87551).



**Plate 19:** View of the oval parked stone outline representing grave dressings

### 9.1.13. (SITE013) REMAINS OF A HOMESTEAD

At approximately 200 meters north east of the identified quarry and stone wall enclosure sites, north of the small earth dam a homestead occur, indicated by *Eucalyptus* and pine trees as site marking trees. Just below the identified homestead and earth dam a pocket of alien tree species occur in a watershed area. The homestead is characterized by dilapidated house structure represented by its foundation with a single free standing wall showing two types of construction techniques( with stones constructed wall connected with mud brick wall section) see photograph for detail. The site is located at the following global positioning system co-ordinates (GPS S28°.51557 & E27°.87555).



**Plate 20:** View of the dilapidated house represented by a free standing wall showing two types of construction techniques.

#### **9.1.14. (SITE014) SINGLE GRAVE SITE**

The single grave is located approximately 200m north east of the identified homestead. The area has been indicated by sand stone block corners post; there are no more fences around the site. The central part of the site is characterized by dense rose plants concentration. The grave has been indicated by constructed cement outline with cement head rest. The headrest inscription has faded out completely only 1924 is visibly. The site is located at the following global positioning system co-ordinates (GPS S28°.51476 & E27°.87641).



**Plate 21:** View of the grave indicated by cemented outline with raised headrest, located in the middle of rose plant, on top of the grave there were ceramic grave offering goods

#### **9.1.15. (SITE015) DELAPIDATED FARM HOMESTEAD**

At approximately 5.5kilometers from the proposed dam wall on the western section of the Meulspruit bank dilapidated homestead was noted located west of the Meulspruit bridge and further south of the gravel road. The site is situated on the lower lying area, adjacent to the Meulspruit bank. The area is characterized by several dilapidated mud house structures. Two old cars (scrap) were noted in the vicinity. The site is located at the following global positioning system co-ordinates (GPS S28°.49203 & E27°.88243).



**Plate 22:** Dilapidated homestead represented by house foundations

## **9.2. THE EASTERN BANK OF MEULSPRUIT**

### **9.2.1. (SITE016) EXISTING FARM HOMESTEAD**

At approximately 3.5kilometers from the proposed dam wall on the eastern section of the Meulspuit bank on a promontory ridge located in close proximity to the river an existing farm homestead represented by main house structure characterized by gable roof and associated out buildings constructed by quarried sand stone blocks was noted. The site is located at the following global positioning system co-ordinates (GPS S28°.50927 & E27°.88257).



**Plate 23:** View of the existing farm homestead towards the south eastern side, Characterized by old house and associated out buildings.

### **9.2.2. (SITE017) CLUSTER OF FOUR GRAVES**

A cluster of four graves were noted further south of the identified exiting farm homestead buildings. The graves were noted approximately 200meters south of the Meulspruit banks. Three of the identified graves have been indicated by parked stones as grave dressings while the fourth grave have been indicated by cemented slab and cement headrest in scripted : Nkopane Thonemohlomi Dhlokahe 7 Sekadi- 12. The site is located at the following global positioning system co-ordinates (GPS S28°.51474 & E27°.88312).



**Plate 24:** Cluster of four graves three of which have been indicated by parked stone as grave dressings while one has been indicated by cement lab with raised head rest.



**Plate 25:** View of individual four graves

### 9.2.3. (SITE018) DELAPIDATED FARM HOME STEAD

The farm homestead has been indicated noted adjacent to the concentration of *Acacia mearnsii* and *Eucalyptus trees* species. The site is characterized by scattered dilapidated stone structures; two of the structures are roundavel in shape while the other two are square shape. A cement reservoir has been noted just south of the identified structures. The site is located at the following global positioning system co-ordinates (GPS S28°.52401 & E27°.88579).



**Plate 26:** View of the homestead characterized by dilapidated buildings in the middle of *Acacia mearnsii* and *Eucalyptus trees*





**Plate 27:** These are some of the individual structure that forms the identified homestead.

## 10. THE SIGNIFICANCE OF GRAVES AND BURIAL SITES

The significance of burial grounds or graves has been indicated by means of stipulations derived from the National Heritage Resources Act (Act No 25 of 1999)

Heritage Significance:	GP.A; High/Medium Significance
Impact :	Negative
Impact Significance :	High
Certainty :	Probable
Duration :	Permanent
Mitigation :	C

- *Informal graves and Formal grave yards (Cemeteries)*

Informal and formal grave yards (Cemeteries) can be considered to be sensitive remains of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (no 25 of 1999) this act applies whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regards to graves includes those which apply

when graves are exhumed and relocated, namely the Ordinance on exhumation (Ordinance no 12 of 1980) and the Human Tissue Act (Act no 65 of 1983 as amended).

## **11. THE SIGNIFICANCE OF HISTORICAL STRUCTURE AND ENCLOSURE SITES**

Two set of criteria were used to determine the historical and cultural significance of the sites. The first set is determined by the National Heritage Resource Act which tends to focus on determining the significance of the site on national or macro geographic level. The second set of criteria is a refinement of those set out in the Act which tends to look at the site in more detail (addressing aspect such as building, structure, infrastructural elements, activities area and planted vegetation).

The stone walled sites (Enclosures) identified within the dam basin and alongside the sand stone slope, qualifies as an archaeological sites which dates from the late Iron Age and possibly the Historical Period as well, Archaeological, historical and Paleontological sites are protected by Section 35 of the National heritage Resources Act (No.25 of 1999) this sites may not be affected (demolished, altered, renovated, removed) before the Provincial Heritage Resources Authority (PHRA) or South African Heritage Resource Agency(SAHRA) has approved such alterations, (these sites has high significance).

The remnants remains of sand stone buildings of square floor plans as well as circular floors foundations were recorded. In some instances occurring together throughout different homestead. These remains are from historical past (referred to as remains of the 19<sup>th</sup> Century). Remains from this period are older than sixty years and therefore qualifies as historical remains, some of these remains however may be close to 100 years of age and qualify as heritage resources.

All buildings and structure older than sixty years are protected by section 34 of the National Heritage Resources Act (No 25 of 1999) and may not be affected (demolished, altered, renovated or removed) before the Provincial Heritage resource Authority (PHRA) or South African Heritage Agency (SAHRA) has approved such alterations.

## **12. SUGGESTED MITIGATION MEASURES**

The identified ruins are in such conditions that they could be properly assessed though most of the buildings elements, fixture and fittings are missing, (such as roof, widows etc) the remaining features could assist in determining the age and style of the buildings,

however the individual ruins have been vaguely described in order to find some order or to detect anything worthwhile that may be of heritage value.

The significance of the identified heritage resources has been indicated, and although the precise location of dam footprint (high flood supply level line) is uncertain the sites will certainly be impacted by the dam basin and construction phase.

The marked individual and cluster of graves are a major source of concern before any work on the dam construction proceeds every attempt should be made to determine their location, flagging and putting danger tapes around the grave sites for visibility while facilitating for their exhumation and reinterred into the safe community cemetery. We would like to suggest that since the identified graves are located inside the proposed dam basin footprint it is strongly recommended that the identified graves sites should be exhumed and reinterred to the safe local cemetery.

In case of the identified stone walling, historical structures and homesteads, needs to be completely mitigated through mapping, sampling test trenches (Phase 2) in order to investigate and understand their use as well as the history behind their existence.

### **13. CONCLUSIONS AND RECOMMENDATIONS**

Significant direct and indirect impacts will be felt by the construction of the dam and it may, however be possible to mitigate these heritage resources sites. From an archaeological and cultural heritage resources perspective we therefore recommend second phase (Phase 2) archaeological work to be conducted within the identified sites before the construction of the dam proceeds.

## APPENDIX: A

## APPENDIX: B

## 15. REFERENCE

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