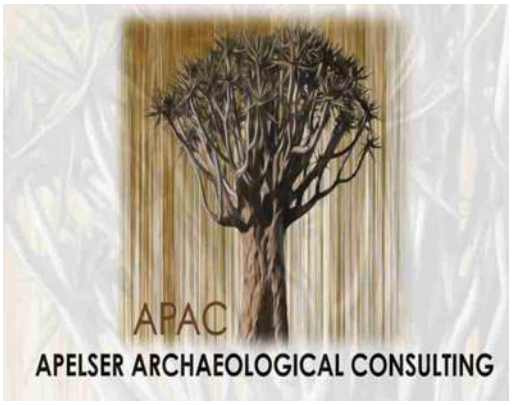

Comprehensive and Professional Solutions for all Heritage Related Matters

CK 2006/014630/23 **VAT NO.: 4360226270**

FINAL REPORT ON THE ASSESSMENT OF CULTURAL HERITAGE RESOURCES (INCL. GRAVE SITES & ARCHAEOLOGICAL SITES) TO BE IMPACTED BY THE NWAMITWA DAM & ASSOCIATED INFRASTRUCTURE DEVELOPMENT, LIMPOPO PROVINCE

For:

C&K Environmental Services (Pty) Ltd
25 Jacuna Street, Thatchfield Close
RUA VISTA Ext.9
GAUTENG

REPORT: **APAC016/20**

Project Reference Number: SZ/CE/Mop/EIA/02

by:

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April 2016

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DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSER Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by C&K Environmental Services (Pty) Ltd, as part of the Construction of Nwamitwa Dam & Associated Infrastructure Development Project, to handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the previous heritage impact assessment (HIA) report submitted by Dr.J. van Schalkwyk (**See References for Report details**). As part of the current work, and prior to the required fieldwork, APELSER was requested to scrutinize the earlier reports and findings to properly identify and describe not only the grave sites that will be impacted, but also the other cultural heritage (archaeological & historical) sites identified and recorded by Van Schalkwyk. A preliminary report was submitted (**See APAC016/08**) to provide information on the processes that need to be followed and adhered to in order to successfully undertake the consultation related work in terms of the graves, obtain the necessary legal permits to exhume and relocated the impacted graves, as well as the negatively impacted archaeological resources.

A total of 26 archaeological and historical sites (including 8 grave sites) were identified and recorded by Van Schalkwyk during earlier work for the proposed dam development in the area. Based on the results of the previous Heritage work in the area and the report submitted it was recommended that the proposed development be allowed to continue, taking into consideration a number of recommendations for mitigation measures put forward. This included the exhumation & relocation of the impacted grave sites, and the more detailed archaeological investigation of some of the Iron Age & Stone Age sites identified.

The March 2016 fieldwork focused on the sites identified and recorded by Van Schalkwyk, and aimed at doing more detailed recording (i.e. determining the exact number of graves associated with each site; determining the extent & significance of the various archaeological/historical sites) of the already known sites, as well as to record any other unknown heritage sites and features. This report discusses the results of this field survey and will also provide recommendations on the way forward at the end in terms of the processes to be followed for the grave exhumations & relocations, as well as the mitigation work required on the various archaeological sites.

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1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by C&K Environmental Services (Pty) Ltd, as part of the Construction of Nwamitwa Dam & Associated Infrastructure Development Project, to handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the previous heritage impact assessment (HIA) report submitted by Dr.J. van Schalkwyk (See References for Report details). As part of the current work, and prior to the required fieldwork, APELSER was requested to scrutinize the earlier reports and findings to properly identify and describe not only the grave sites that will be impacted, but also the other cultural heritage (archaeological & historical) sites identified and recorded by Van Schalkwyk. A preliminary report was submitted (**See APAC016/08**) to provide information on the processes that need to be followed and adhered to in order to successfully undertake the consultation related work in terms of the graves, obtain the necessary legal permits to exhume and relocated the impacted graves, as well as the negatively impacted archaeological resources.

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The client indicated the location and boundaries of the Project Area, and the assessment focused on this. Access to the various farms and farm portions situated in the project area were provided by the property owners.

2. TERMS OF REFERENCE

The Terms of Reference for this Project is as follows:

(1) To handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the heritage impact assessment report.

This includes:

(a) The investigation of graves to be exhumed and relocated;
(b) Site notices and do notices in the newspapers and consult with the local community to obtain consent letters for the exhumations and relocations;
(c) Consultation with community and reports to SAHRA; and
(d) Applications for permits from SAHRA/ COGTA/ SAP/ Provincial Health Department/Local Municipality etc.

2. To handle all matters pertaining to the archaeological investigations and mitigation of those identified archaeological sites that will be impacted upon by the proposed development

This will include:

(a) Obtaining the required permits from SAHRA to undertake the work, as well as permissions from the various landowners on which properties these sites are situated;

(b) Undertaking the archaeological investigations successfully and to provide reports to both the client and SAHRA in fulfillment of the permit requirements;

(c) And finally, to obtain permission for destruction of these sites once the archaeological work has been concluded

Over and Above this the Terms of Reference for the detailed fieldwork was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;

2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;

3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;

4. Propose suitable mitigation measures to minimize possible negative impacts on thecultural resources;

5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

a. ***Archaeological artifacts, structures and sites older than 100 years***
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. ***Historical objects, structures and sites older than 60 years***
f. Proclaimed heritage sites

g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance
f. ***Sites of Archaeological and palaeontological importance***
g. ***Graves and burial grounds***
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

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;

c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

a. ancestral graves
b. royal graves and graves of traditional leaders
c. graves of victims of conflict
d. graves designated by the Minister
e. historical graves and cemeteries
f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

a. destroy, damage, alter, exhume or remove from its original position of 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 or 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, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations** (**Ordinance no. 12 of 1980**) (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act** (**Act 65 of 1983 as amended**).

3.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. METHODOLOGY

4.1 Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2 Field survey

The field assessment section of the study will be conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed. ***It needs to be stated here that all the known sites identified during previous studies by other specialists was re-visited using information and GPS localities provided by the specialist (Dr. Johnny van Schalkwyk - with his permission provided), while all efforts was also made to identify and record possible further unknown sites or features in the area.***

4.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4 Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The Nwamitwa Dam Project area is located on various farms in a section of the Groot Letaba River, north of the towns of Tzaneen and Letsitele in the Limpopo Province.

The vegetation in some areas during the field assessment was very dense and made both access and visibility difficult. In some sections the vegetation was sparse and/or have been recently removed, which made the work easier. Some sections are under agricultural fields (various citrus, vegetables, etc.) and have been disturbed through various activities such as ploughing; irrigation; planting; grazing; farm buildings (homesteads and related structures), as well as other rural and urban developments and activities such as roads, powerlines, fences, homesteads, etc. The topography for the most is relatively gentle, although there are areas with low hills, rocky outcrops and some mountainous stretches. The main water course is the Groot Letaba, with various tributaries and smaller rivers and streams found throughout the study area.

The following farms (various portions of these) form part of the study area:

1. Deeside 733LT	2. Laborie 515LT	3. Nagude 517LT
4. Belle Ombre 903LT	5. The Plains 519LT	6. La Gratitude 513LT
7. Belle Ombre 518LT	8. Eureka 563/564LT	10. The Plains 828LT
11. Riverside 514LT	12. Languedoc 563LT	13. The Junction 521LT
14. Delhi 520LT	15. La Motte 464LT	16. Tagganashoek 465LT
17. Janetsi 463LT	18. Mamitwas Kop 462LT	19. Mamitwas Location 461LT

Fig.1: General location of study area shown in red rectangle (Google Earth 2016).

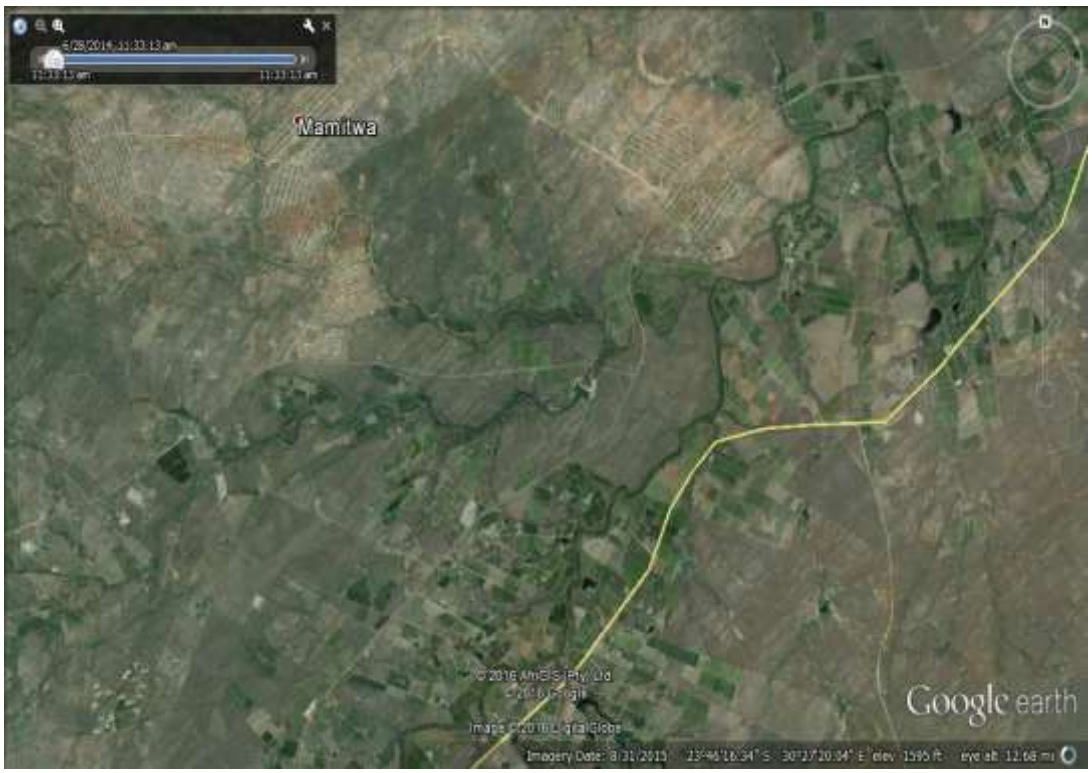

Fig.2: A closer view of a section of the study area show the fairly large-scale agricultural development and activities in the area, as well as the location of rural/urban settlements such as Mamitwa (Google Earth 2016).

Fig.3: In some areas the vegetation is very dense as can be seen in this picture.

Fig.4: Another view of the dense vegetation in some areas.

Fig.5: Some areas are much more open.

Fig.6: A view from one of the grave sites showing the surrounding rural/urban settlements and development.

Fig.7: A view of another area that used to be utilized for crop growing. It used to be open, but new vegetation growth is encroaching on the site again.

Fig.8: In some areas the vegetation is very dense, but has been cut recently for semi-commercial wood supply for charcoal production.

6. DISCUSSION

Dr. Johnny van Schalkwyk of the National Cultural History Museum (now the Ditsong Museum of Cultural History) in Pretoria, was appointed by ILISO Consulting (Pty) Ltd., to identify, evaluate and document sites, objects and structures of cultural significance found within the boundaries of the area in which it is planned by Department of Water Affairs and Forestry at the time (DWAF) to develop a new dam and bulk water distribution network. The

dam was provisionally named the Nwamitwa Dam, and is to be located in a section of the Groot Letaba River, Limpopo Province.

The aim of his work and subsequent report in 2009 was to draw up a comprehensive mitigation and conservation management plan for heritage sites located in the area of the proposed dam, as well as for the bulk water distribution network. This plan was to be developed and implemented in different phases. It started off with a Phase 1 survey, in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999). ***The Phase 2 work (of which the current Project by the APAC forms part) is the implementation of the various recommended mitigation measures provided by Van Schalkwyk in his report.***

The TOR for his 2009 work was:

1. Identify possible archaeological, cultural and historic sites within the proposed development areas;

2. Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;

3. Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

Van Schalkwyk's study commenced with a survey of available published as well as unpublished information. These sources were reviewed with the aim to determine the potential of heritage sites occurring in the area. Various anthropological, archaeological and historical sources, survey reports and databases (including the Archaeological Data Recording Center housed at the Museum) were consulted. Apart from this, the various farms were also accessed through the NASA and CSG databases and aerial photographs and Topocadastral and other maps were also studied.

From a heritage point of view he concluded that the project area is largely under researched, which resulted in a near absence of available information. Only a few areas in the larger region have been subjected to intensive surveys. The motivation for these was either self-initiated research of for developmental purposes. With regard to the former, there was, for example Evers (1975, 1982) who did some work on Iron Age settlement in the Hans Merensky Nature Reserve, east of the project area. Other self-initiated research, covering large areas, was that of Pistorius (1989) on the Iron Age in the Phalaborwa region and Meyer (1986), who did an intensive survey of the Kruger National Park, documenting hundreds of Iron Age and historic sites.

Surveys conducted for various developments in the larger project area included the following: the original survey for the Namitwa Dam (then known as the Janetsi Dam - Van Schalkwyk 1996a), the Letsitele (Van Schalkwyk 1996b) and Thapane (Van Schalkwyk 2001) dams, township development in Letsitele (Van Schalkwyk 2000) and the Project Olympia mining area (Van Schalkwyk 1999).

According to Dr.van Schalkwyk it was however possible to determine that the Letaba River Vlley falls within a region with a high potential for heritage sites, but also to indicate the range of sites that could expected in the project area.

The area that had to be investigated by him was indicated by ILISO Consulting through a number of maps. The information that was obtained from the literature during the preliminary study was plotted on a map and was used to develop a strategy by which the area could be accessed systematically. The dam basin was surveyed on both sides of the river by walking across it in a number of parallel transects. As the development for the bulk water distribution area is linear in nature, the proposed routes that were to be followed were travelled as closely as possible.

The various alternative road re-alignments were not as clearly identified as the water distribution routes, and therefore the affected areas were reviewed in a more general manner. Dr. van Schalkwyk also noted that during the survey that the dense grass and shrub cover that resulted after good seasonal rains in the area at the time (2009) made visibility and the detection of archaeological sites difficult, as surface features were in most cases obscured. ***This situation was very similar during APAC's March 2016 field assessment.***

Twenty-six (26) sites of cultural significance were identified during the earlier Impact Assessment. Of these, 16 occur within the dam basin study area, with 10 in proximity of the road alignments or bulk water supply system. These sites are representative of all time periods of the past and, in order to understand their significance, they need to be contextualized. A short overview of past human occupation in the region was provided by Van Schalkwyk in his 2009 report, and is given below:

ARCHAEOLOGICAL SEQUENCE

Stone Age

That Stone Age people occupied the Letaba River valley and the area of the proposed dam is clear from the occurrence of stone tools dating to the Early, Middle and Late Stone Age. However, all the finds were classified as isolated surface occurrences. Consequently, such finds are judged to have a low significance and they require no mitigation measures. A case in point is the large number of bored stones, dating to the Later Stone Age, that were ploughed out near the Letaba River on the farm Riverside of Mr J Barnard. Unfortunately, no primary (stratified/sealed) sites are known to exist in the survey area. The closest stratified site, known as Bushman Rock Shelter, is located at Echo Caves north of Ohrigstad. Here, early humans lived, discontinuously, for thousands of years, from the Early Stone Age, through what is known as the Middle Stone Age, and well into the Later Stone Age.

Iron Age

The term Iron Age is used by African archaeologists to refer to the advent of subsistence patterns based on farming and follow directly on the Stone Age. The Iron Age is characterized by the production and use of metals as well as characteristic types of pottery. Iron Age people moved into southern Africa by c. AD 200, entering the area either by moving down the coastal plains, or by using a more central route. It seems more likely that the first option was what brought people into the study area. From the coast they followed the

various rivers inland. Being cultivators, they preferred the rich alluvial soils to settle on. Early Iron Age occupation of the region seems to have taken place on a significant scale and at least three different phases of occupation have been identified. One of the earliest known dated sites are located near Tzaneen. Called Silver Leaves, these people, belonging to the Kwale Branch of the Early Iron Age (Huffman 2007) seems to be the oldest Iron Age site discovered so far in southern Africa. As yet, no sites that can be related to this tradition have identified in the study area.

However, other sites dating somewhat later were also identified. Preliminary identification of the pottery indicates that it belong to the Doornkop phase of the Early Iron Age, and should have a date of between AD 600 900. These are the same group of people that produced the remarkable clay masks found near Lydenburg in the 1960s. These settlements seems to have been followed at a slightly later date by settlements linked to the Eiland Facies of the Middle Iron Age (c. AD 1000-1200). Early Iron Age sites are our only source of evidence for the occupation of the area by early farming communities. As such these sites are important and they are viewed to have medium significance, which implies that they would require mitigation measures. Over time these communities were replaced by people belonging to groups recognizable in modern times, e.g. Sotho-speakers, for example the Lobedu, Phalaborwa, Letswalo and Kgaga, and TsiTsonga-speakers, such as the Nkuna. Although located much further to the north, the Venda-speakers also had some influence in the study area, especially amongst the Lobedu. As this was a period of population movement, conflict and change, it in large part set the scene for the current population situation in the country, a situation that was exploited by the policy of separate development in the sense of the creation of various homelands. Considering the time period that they were occupied, they also feature in the early historic period. These sites are therefore viewed to have medium significance and would require mitigation.

Based on the occurrence of specific resources, some interesting though not unique industries developed that was aimed at the exploitation of local resources. Two examples are the copper and iron smelting at Phalaborwa and the extraction of salt at the Eiland mineral springs

The historic period started c. 1840s, with the arrival of the first white hunters, missionaries and prospectors in the area. The discovery of gold at what was to become Leydsdorp, set the scene for outsiders to enter the area in large numbers. However, the gold did not last long and, after a heyday lasting approximately 10 years, the little town was largely forgotten.

As time went by, the area was divided into farms. This, of course, gave rise to conflict between the whites entering the area and the local Sotho and Tsonga communities. Soon conflict broke out, e.g. against the Kgo i Makgoba, occupying Magoebas Kloof, and the ZAR government. Still, development was very slow, with a few farms occupied by the early 20th century. It was only in the 1950s, after the success Dr Siegfried Anneke had with the fight against malaria that population numbers increased significantly.

ETHNO-HISTORICAL OVERVIEW

Two different language groups are found in the study and surrounding area: Sotho-speakers and Tsonga-speakers. The Tsonga form the main group in the study area. Their origin is in Mozambique. Due to the wars in the coastal areas of Natal and Mozambique during the 1820-30s, they entered the (former) Transvaal, first in small groups and later, by the 1890's, due to

Portuguese aggression, in larger groups with recognized chiefs. They were later given formal "locations" to settle in, which during the days of separate development under the previous government became the Homeland of Gazankulu.

To the north and east of the study area is the Sotho-speakers, of which the Lobedu people is the best known because of their famous "rain queen" (Modjadji). They have a strong link to the Venda located more to the north. Other smaller Sotho groups such as the Thlabine and Sekororo are found to the west of the study area. A map by Van Warmelo (dating to 1935) illustrats the diversity of people found in the region. It is also significant that it showed a lack of people staying in the study area at the time. This situation obviously has changed drastically over the last few decades, largely as a result of the process of homeland development instituted by the previous government. As part of the process of homeland consolidation, people of Tsonga/Shangaan descent were forcibly removed from other areas and relocated in this area, which was to be part of what was planned to become an independent republic called Gazankulu.

Based on current knowledge and understanding of the area Dr. van Schalkwyk evaluated the heritage sites in the area as follows:

(a) Stone tools dating from all periods of the Stone Age are known to occur over the study area. As these objects are open finds and not in their original position anymore, they are viewed as having low significance. A few rock shelters are known in the region, some of them containing rock art. All the known Stone Age sites in the study area are currently viewed as being of Grade III significance.

(b) A number of sites dating to the Early Iron Age are known to exist in the area. Almost all the early sites occur on the alluvial soils close to the river. It is possible that sites dating to the Late Iron Age would be located in the various hills and at the foot of the mountains, where stone was freely available to build structures. All of the Early and Late Iron Age sites currently known in the area are viewed to be of Grade III significance

(c) Sites dating to the historic period can be related to early farming, mining and missionary activities. Included in these would be old farmsteads, graves and infrastructural elements such as roads and bridges. All the sites dating to historic times currently known in the area are viewed to be of Grade III significance.

(d) At present, no sites referred to as living heritage, e.g. initiation sites, sacred sites, battlefields, etc. are known to exist in the dam basin or in areas where the road realignments and bulk water supply network is to be developed. However, there is a strong possibility that such sites will be identified after consultation with the local communities has been done. All the sites dating to the current period that might exist in the area would be viewed to be of Grade III significance.

The General Management Objectives and Commitments provided by Van Schalkwyk were the following:

1. To avoid disturbing sites of heritage importance; and

2. To avoid disturbing burial sites.

i. The contractors and workers should be notified that archaeological sites might be exposed during the construction work. Should any heritage artifacts be exposed during excavation, work on the area where the artifacts were discovered, shall cease immediately and the Environmental Control Officer (ECO) shall be notified as soon as possible;

ii. All discoveries shall be reported immediately by the Environmental Control Officer to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;

iii. Under no circumstances shall any artifacts be removed, destroyed or interfered with by anyone on the site;

iv. and Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artifacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

For the Operation Phase of the Project he provided the following General management objectives and commitments:

To avoid disturbing sites of heritage importance the following shall apply:

1. Continued care should be taken to observe discovery of any sites and objects of heritage significance during operation. Should any archaeological artifacts and palaeontological remains be exposed during operations, work on the area where the artifacts were found, shall cease immediately and the appropriate person at the South African Heritage Resources Agency, local museum or the nearest local authority office shall be notified by the ECO as soon as possible;

2. Upon receipt of such notification, an Archaeologist or Palaeontologist shall investigate the site as soon as practicable. Acting upon advice from these specialists, the necessary actions shall be taken;

3. Under no circumstances shall archaeological or palaeontological artifacts be removed, destroyed or interfered with by anyone on the site during operations;

4. and the Dam Operator shall advise its workers of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artifacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51(1).

For Impact minimization he advised the following:

a. The developer must ensure that an archaeologist inspects each site selected for the development, whether the inundation of the dam basin and the installation of a bulk water supply system or the road re-alignment. If a particular development impacts on a heritage site but cannot be shifted, mitigation measures, i.e. the controlled excavation of the site prior to development, can be implemented. This can only be done by a qualified archaeologist after obtaining a valid permit from SAHRA.

The same action holds true for any support activities such as access routes, construction campsites, borrow pits, etc. In the past, people used to settle near water sources. Therefore riverbanks, rims of pans and smaller watercourses should be avoided as far as possible. In this particular part of the country, Iron Age people also preferred to settle on the saddle (or neck) between mountains (hills/outcrops). These areas should also be avoided. Avoid all patches bare of vegetation unless previously inspected by an archaeologist. These might be old settlement sites. Rock outcrops might contain rock shelters, engravings or stone walled settlements, and must be avoided unless previously inspected by an archaeologist.

Communities living close to the proposed corridor should be consulted as to the existence of sites of cultural significance, e.g. graves, as well as sites that do not show any structures but have emotional significance, such as battlefields, initiation sites, sacred sites, etc.

All graves or cemeteries should be avoided, unless when totally impossible. The correct procedure, i.e. notification of intent to relocate them, consultation with descendants and the various permit applications should then be followed in relocating the graves. If any of the graves are older than 60 years, they can only be exhumed by an archaeologist. Graves of victims of conflict requires additional permits from SAHRA before they can be relocated.

Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the construction work. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the find. Any mitigation measures applied by an archaeologist, in the sense of excavation and documentation, should be published in order to bring this information into the public domain.

Some comments received from the local community at the time of the earlier assessment included those from Mr Lekgolo Ramalepe of the BaKgaga BaMaupa Communal Property Association, who raised concerns in terms of what will happen to ancestral graves in the project area should the graves have to be removed. Part of the area for the proposed dam construction could submerge traditional and ancestral land of great value to the people and also that people reside in that area. Ruins, gravesites, and other places of importance, such as places of worship, could be affected by the construction of the dam and other proposed developments associated with the bulk water supply. Mr Ramalepe added that the communities of the area did not have the opportunity to identify graves when the Tzaneen Dam was built and that there were still graves submerged in the dam. The EIA team consulted with Mr Ramalepe during the Heritage Resources Study fieldwork of 2010 and it was agreed that detailed community consultation to identify next of kin etc. for the graves of concern would take place during the implementation of the project. This process is to be extended to also include other aspects such as the identification of places to which oral traditions are attached or which are associated with living heritage, e.g. initiation sites, sacred sites, battlefields, etc.

The 2009 survey identified 26 sites of cultural significance located in the above mentioned development areas as well as the dam basin. This included 5 Stone Age sites; 9 Iron Age sites; 4 sites dating to historic times and 8 sites containing graves. According to Van Schalkwyk all of the identified sites are judged, according to Section 7 of the National Heritage Resources Act, No. 25 of 1999, to have Grade III significance. The implication of

this is that there are no sites of cultural heritage significance that would prevent the construction of the dam and the associated infrastructure from taking place. However, in accordance with Section 28 of the National Heritage Resources Act, No. 25 of 1999, mitigation measures needs to be implemented for the identified sites, after obtaining of the required permits from SAHRA and other Departments, e.g. the Department of Health.

Finally, based on what was found and its evaluation, Dr. van Schalkwyk recommended the following:

1. Examples of the Stone Age tools occurring in the area should be collected as they are identified, ideally when mitigation of the archaeological sites take place, i.e. when the archaeologists are active in the area. This collection can then be used in a local display on the prehistory of the area, or by local schools in their educational activities.

2. Documentation (mapping and photographing) and limited excavations should be done on the identified Late Iron Age sites.

3. Documentation (mapping and photographing) of some of the identified historic structures should be done.

4. Workshops should be held with members of local communities in order to identify places to which oral traditions are attached or which are associated with living heritage, e.g. initiation sites, sacred sites, battlefields, etc.

5. Graves should be relocated only after consultation with descendants.

6 Workshops should be held by the archaeologists/heritage consultants with the construction crew, at least at section head level in order to sensitize them about what to expect and how to act if something is uncovered.

7. A direct link should be established by the developers with the archaeologist, who should be on call at all times, in the event that something is uncovered.

For further basic archaeological sequence background, I also provide the following for better understanding:

The Stone Age is the period in human history when lithics (or stone) was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is important to note that these dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago
Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

Below is the list of sites identified by Dr. van Schalkwyk (with his permission) during the 2009 assessment, also providing the GPS Coordinates for each and the farm it is located on:

1	Stone Age	Early	Open site	Deeside 733LT	S23.76250	E30.51667
2	Stone Age	Early	Open site	La Motte 464LT	S23.78472	E30.47250
3	Stone Age	Early	Open site	La Motte 464LT	S23.77444	E30.46694
4	Stone Age	Middle	Open site	Riverside 514LT	S23.78806	E30.46694
5	Stone Age	Middle	Open site	Mamitwa 461LT	S23.75556	E30.42139
6	Iron Age	Late	Open site	Janetsi 463LT	S23.76139	E30.44194
7	Iron Age	Early	Open site	Janetsi 463LT	S23.75861	E30.46278
8	Iron Age	Late	Open site	La Motte 464LT	S23.78389	E30.47417
9	Iron Age	Early	Open site	La Motte 464LT	S23.78028	E30.47889
10	Iron Age	Undiff.	Open site	La Motte 464LT	S23.76194	E30.47750
11	Iron Age	Undiff.	Open site	La Motte 464LT	S23.78056	E30.47528
12	Iron Age	Undiff.	Open site	Mamitwa 461LT	S23.76000	E30.42111
13	Iron Age	Undiff.	Open site	Mamitwa 461LT	S23.75111	E30.42472
14	Iron Age	Early	Open site	Laborie 515LT	S23.76487	E30.49501
15	Historic	Late	House	Mamitwa 461LT	S23.77389	E30.42056
16	Historic	Late	House	Janetsi 463LT	S23.74361	E30.45361
17	Historic	Late	House	Janetsi 463LT	S23.74222	E30.45250
18	Historic	Late	Homestead	Vallambria 681LT	S23.58386	E30.61112
19	Historic	Late	Graves	Janetsi 463LT	S23.75333	E30.47528
20	Historic	Late	Graves	Janetsi 463LT	S23.75417	E30.45778
21	Historic	Late	Graves	Laborie 515LT	S23.77194	E30.49306
22	Historic	Late	Graves	Laborie 515LT	S23.77159	E30.49257
23	Historic	Late	Graves	Laborie 515LT	S23.77459	E30.49182
24	Historic	Late	Graves	Makube 425LT	S23.63520	E30.50633
25	Historic	Late	Graves	Vallambria 681LT	S23.58346	E30.61084
26	Historic	Late	Graves	Mamitwa 461LT	S23.73325	E30.40872

Fig.9: Distribution of sites found by Dr. van Schalkwyk (Google Earth 2016).

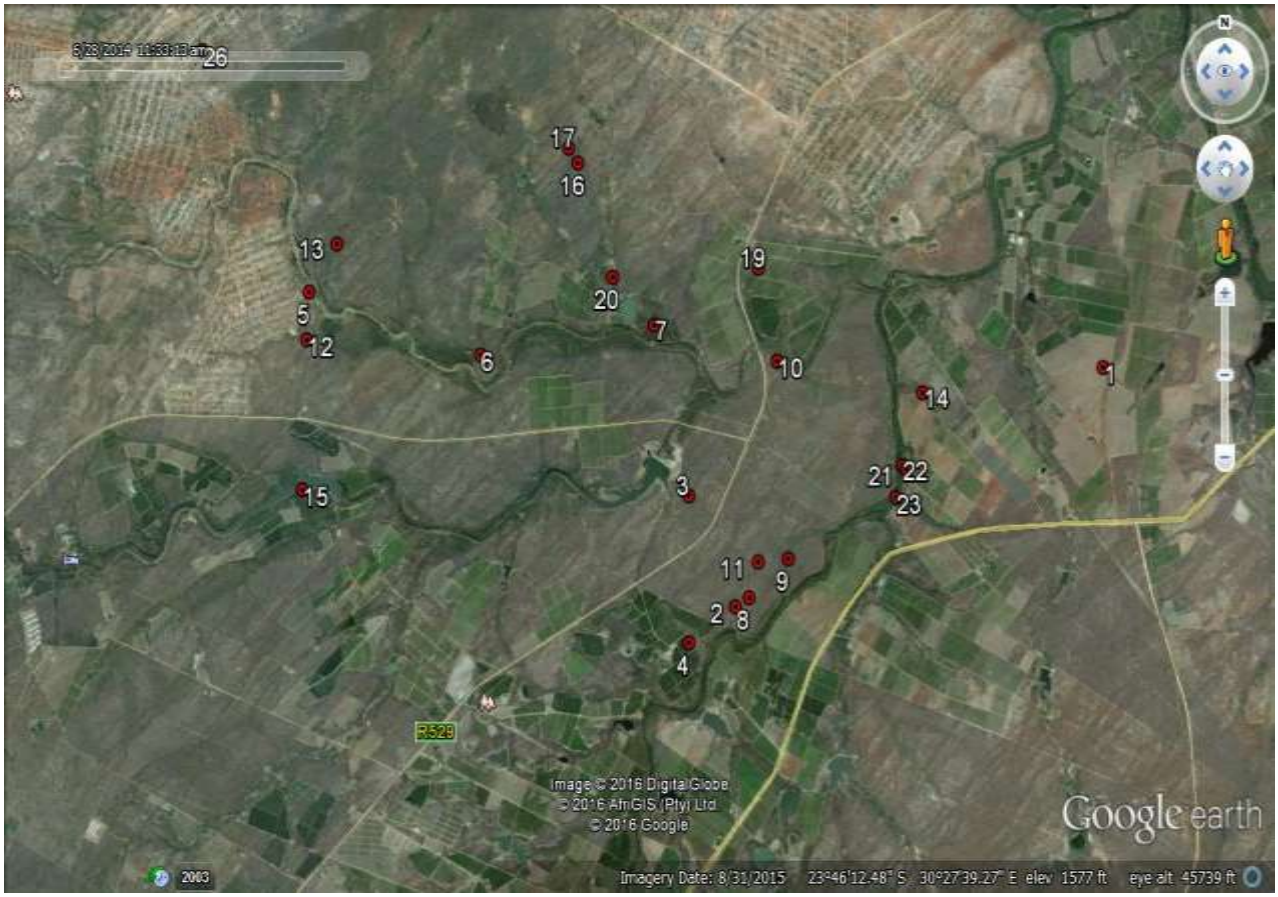

Fig.10: Closer view of largest cluster of known sites in the study area (Google Earth 2016).

Fig.11: Closer view of the location of Sites 18, 24 & 25 (Google Earth 2016).

Although the main focus of the appointment initially was the investigation, exhumation and relocation of all the graves from the Grave Sites that will be impacted by the Nwamitwa Dam Development, the other cultural heritage (archaeological & historical) sites identified and recorded by Dr. van Schalkwyk were also to be assessed again during the fieldwork. These sites are of varying heritage significance and some need mitigation measures implemented as recommended prior to the actual development commencing. This will include sampling, archaeological excavations and detailed mapping and documentation once the required permits from SAHRA have been applied for and issued.

The March 2016 fieldwork focused on these sites as well in order to assist with this aspect of the Phase 2 work, with the sites recorded and described in some more detail. The way forward in terms of the successful mitigation of all the cultural heritage sites (archaeological/historical & graves) will be discussed in the following section on the results of the March 2016 Fieldwork.

Results of the March 2016 Fieldwork

With the number of sites to be assessed being fairly big, and the area to be covered extensive, it was decided to scrutinize Van Schalkwyk's 2009 report to determine which sites he deemed of low significance and did not need any further mitigation measures and recording. These sites were therefore not revisited. The following sites (**Van Schalkwyk's 2009 List**) were excluded from the 2016 assessment based on these criteria:

Site 1: Early Stone Age Open-air Site – Deeside 733LT: S23.76250 E30.51667
Site 3: Early Stone Age Open-air Site – La Motte 464LT: S23.77444 E30.46694
Site 5: Middle Stone Age Open-air Site – Mamitwa 461LT: S23.75556 E30.42139
Site 8: Late Iron Age Site – La Motte 464LT: S23.78389 E30.47417
Site 10: ? Iron Age – La Motte 464LT: S23.76194 E30.47750
Site 12: ? Iron Age – Mamitwa 461LT: S23.76000 E30.42111
Site 13: ? Iron Age – Mamitwa 461LT: S23.75111 E30.42472
Site 15: Historic – Mamitwa 461LT: S23.77389 E30.42056

Grave Sites Assessed

Site 19

Van Schalkwyk described this site as "possible graves, marked by a clump of indigenous and exotic trees (seringa) in an orchard. According to local tradition (recounted by farm labourers) some graves of the people of Segobela are located here. It was however difficult to see any graves on the site, and he recommended test excavations to see if there are any graves here and if the site was to be impacted.

Located on Janetsi 463LT. GPS Location: S23.75333 E30.47528

During the March 2016 the specialist team re-assessed this site. The vegetation was very dense and made access and visibility difficult. A large "sisal" (succulent plant) was seen in the area where the graves are said to be located. These types of plant are often planted on grave sites, and could therefore indicate the presence of burials. The number of possible graves on the site could not be determined, but the area is relatively big so there might be a

few. A **minimum of 1 grave** is possible. It is recommended that should the site be impacted by the development (flooding etc.) the site be excavated through test pits (**at least 10 test pits**) to ensure that all possible graves in the area is exhumed and relocated. This process should be done in consultation with the community in order to try and locate any possible descendants (people of Segobela) before the work commences.

Fig.12: Grave Site 19. Note the dense vegetation.

Fig.13: The "sisal" growing on the site.

Site 20

Van Schalkwyk described this as **1 grave**, marked by a circle of stones, next to an old settlement site. He also indicated that the grave was still being visited by the descendants at the time of his assessment and that it is located next to an old living site that was abandoned by the residents some years prior to 1985, when they were relocated to the so-called Trust

Area. He recommended exhumation & relocation of the grave should it be impacted by the development of the dam.

Located on Janetsi 463LT. GPS Location: S23.75417 E30.45778

During the 2016 assessment the ruins of the old settlement was located, but the position of the possible grave (using the GPS coordinates provided by Dr.van Schalkwyk) could not be determined. Using the GPS coordinates an open patch, with some ashy deposit, was found, and although the area in the vicinity was searched no evidence of any stone-packed or other grave was found.

It is recommended that should the site be impacted on by the development, that consultation should be undertaken with the current landowners and workers to try and locate the grave before any work is done. It should also be taken into consideration that people sometimes buried deceased relatives (especially still-born infants & young children) very close to their homesteads, so there is always a possibility that when ruins such as these are demolished that human remains could be found. This aspect will also be considered during the consultation process.

Fig.14: One of the abandoned structures on Site 20.

Fig.15: Another view of the old settlement ruins.

Fig.16: The ashy patch to which the Site 19 grave GPS coordinates led.

Site 21

This grave site contains **4 stone-packed graves** that according to the farm owner (Mr. Willie Muller) is still visited and cared for by the family and descendants of the deceased individuals. A further **2 graves** were identified close by, with both characterized by soil heaps and some enamel objects close to them. The graves should be exhumed & relocated if they are to be impacted by the development of the dam, with consultation with the family members to be conducted prior to any work being undertaken.

Located on Laborie 515LT. GPS Location: S23.77194 E30.49306

Fig.17: One of the stone-packed graves on Site 21.

Fig.18: One the soil heaps at Site 21 that could be a grave. Note the enamel bowl to the right of the scale.

Site 22

This is 1 stone-packed grave, also located on the farm of Mr.Willie Muller. It is also maintained and should it be impacted its need to be exhumed and relocated after consultation with descendants.

Located on Laborie 515LT. GPS Location: S23.77159 E30.49257

Fig.19: The stone-packed grave on Site 22.

Site 23

Again this site is on Mr.Willie Muller's farm. It contains **3 stone-packed graves** that are still visited and maintained by descendants. Consultation with the family should be undertaken before exhumation and relocation is conducted, should the sites be impacted by the development of the dam. The sizes of the graves seem to indicate that 2 adults and 1 child is buried here.

Located on Laborie 515LT. GPS Location: S23.77459 E30.49182

Fig.20: The three stone-packed graves on Site 23.

Site 24

The GPS coordinate provided by Van Schalkwyk was used to locate this **1 grave**, which is situated fairly close to the road. No grave was however seen here, although a hole close by could indicate the position (it might have been moved?) but this is doubtful. Another possible stone-packed grave was identified and recorded in the general area of Site 24. If these sites area to be impacted by the development of the dam then extensive social consultation will have to conducted to try and determine the position of the originally identified grave and/or the identity of the deceased individual at the new possible grave.

Located on Makube 425LT. GPS Location (original site): S23.63520 E30.50633
GPS Location (Possible new grave site): S23.63596 E30.50623

Fig.21: The original location of Site 24 grave.
No grave is visible. Based on old GPS coordinates.

Fig.22: The hole/depression close by that could indicate the grave's position.

Fig.23: The possible "new" grave at Site 24.

Site 25

There are **two (2) formal graves** on this site that is located close to Site 18 (which will be discussed later in the report under the other archaeological sites). Both have granite/marble headstones with legible inscriptions. The first grave is that of one Ntsaka Manyama, who was buried here in 1962, nearly aged 15 years of age. The second is that of one Malokotse Manyana, buried here in 1963 aged 42 years of age. Although no other graves were visible in the area, there could be more previously unknown or unmarked graves here, especially considering the close proximity to Site 18 which clearly was an old settlement site. If these sites are to be impacted by the dam, then extensive social consultation will have to be conducted before work commences in order to successfully exhume and relocate these graves.

Located on Vallambria 681LT. GPS Location: S23.58346 E30.61084

Fig.24: Grave Site 25.

Fig.25: Grave of Nstaka Manyama.

Fig.26: Grave of Malokotse Manyama.

Site 26

This grave site is located on the property of the Evangelical Presbyterian Church in SA in Mamitwa. The Church was founded in 1875. According to the resident Reverend here the **3 graves** located here are not associated with the Church, but with Chief Mamitwa II whose residence is situated close-by. Consultation regarding the graves should be conducted with the Chief should the graves be impacted by development of Nwamita Dam. The graves have formal granite/marble headstones and are those of the Mavanyisi family. The first is that of Leah Mahwahwa Mavanyisi who was buried in 1948 aged 33. The second is that of Emily Nwa Nkhavi Mavanyisi buried in 1948 aged 60 and the third that of Asnath Nwa Mbohokolo Mavanyisi buried in 1937 at the age of 24.

Located on Mamitwa 461LT. GPS Location: S23.73325 E30.40872

Fig.27: Grave Site 26.

Fig.28: Memorial stone of the Evangelical Presbyterian Church in SA on which property Grave Site 26 is located.

Fig.29: The grave of Leah Mavanyisi.

Fig.30: The grave of Asnath Mavanyisi.

Fig.31: The grave of Emily Mavanyisi.

New Grave Site – Site 27

This previously unknown grave site was identified & recorded close to Sites 16 & 17 (both historical homestead remains that will be discussed later on). This **1 grave** has a formal granite headstone. It is the grave of one Mshothi William Sewape, who was buried here in 1965 aged 46. It seems as if the grave has been recently visited by descendants. The possibility of more unknown (unmarked or low stone-packed) graves in the area should not be discounted, especially considering the close proximity of the remains or earlier homestead/settlement remains (Sites 16 & 17).

Located on Janetsi 463LT. GPS Location: S23.74212 E30.45255

Fig.32: Grave at New Site 27.

Fig.33: Closer view of the grave at Site 27.

Archaeological/Historical Sites Assessed

Sites 2 & 4: Stone Age Open-air Sites

Both sites were difficult to access due to dense vegetation and/or the fact that no roads to these areas existed. According to Van Schalkwyk the sites contain fairly dense scatters of Early and Middle Stone Age (ESA/MSA) tools and flakes & cores in open erosion dongas and open areas and warrant the collection of material as representative samples of the Stone

Age archaeology of the area. Permits from SAHRA needs to be applied for and obtained by the archaeologist appointed for the mitigation work, and the detailed sampling should be undertaken prior to the development actions commencing.

During the 2016 assessment the research team was able to access a section of Site 2, and the same mitigation measures proposed by Dr.Van Schalkwyk earlier is recommended. Due to the access issues mentioned earlier (and mostly the dense vegetation) it is further recommended that the required work is undertaken in winter time when the vegetation would be less dense.

Located on La Motte 464LT (Site 2) & Riverside 514LT (Site 4). GPS Locations: S23.78472 E30.47250 (Site 2) & S23.78806 E30.46694 (Site 4)

**Fig.34: The dense vegetation in the area close to Site 2 &4.
The tree cover is currently being removed for wood by locals
& for the manufacture of charcoal.**

Fig.35: The erosion donga at Site 2.
Note the dense vegetation that made access difficult.

Fig.36: Some of the ESA/MSA Stone tools identified at Site 2.

Site 6 – Late Iron Age

This site was first recorded by Van Schalkwyk in 1996 and he described it as containing some potsherds and small pieces of magnetite eroding out on the bank of the river (Nwanetsi?). He also indicated that although the pottery found was very fragmented it could be of recent origin. He found it difficult to determine the extent of the site due to the dense

grass cover at the time. His recommendation was that the site be excavated by means of test excavations to determine the extent and significance of the site.

During the 2016 assessment the vegetation was also very dense, making access to and visibility on the site difficult. Scatters of pottery was however found, while pieces of hut floor and pottery was also identified eroding out of the banks of the river/spruit in the area. After the 2016 assessment it is recommended that Archaeological Test Excavations be conducted at Site 6 should the site be impacted by the development. An excavation permit will be required from SAHRA.

Located on: Janetsi 463LT. GPS Location: S23.76139 E30.44194

Fig.37: Some fragments of undecorated pottery from the general area of Site 6.

Fig.38: An illustration of the dense vegetation in the area of Site 6.

Fig.39: Pieces of hut clay and other cultural material eroding out of the river/stream bank around Site 6.

Site 7

Van Schalkwyk described this site as containing pottery exposed by erosion and some of the pieces showing Early Iron Age (EIA) characteristics. He also said that it seems that most of the site was still under thick vegetation, making the detection of extent and significance of the site difficult. As mitigation measure he again recommended test excavations with a permit from SAHRA required before development work commences.

The 2016 assessment used Van Schalkwyk's description and GPS coordinates to try and locate the site, but once again dense vegetation made visibility a problem. Some pottery fragments were however recorded close by to the spot (eroding out in and on the edge of the dirt road that runs past the site location. Although efforts were made to identify more features or cultural material that would be associated with sites such as these (such as ash middens or hut floors) none was found (mostly due to the dense grass cover). Should the site be impacted by the development of the dam it is however still recommended that archaeological test excavations be carried out in order to recover as much material evidence as possible before destruction.

Located on: Janetsi 463LT. GPS Location: S23.75861 E30.46278

Fig.40: The dense vegetation in the Site 7 vicinity is very clear in the picture.

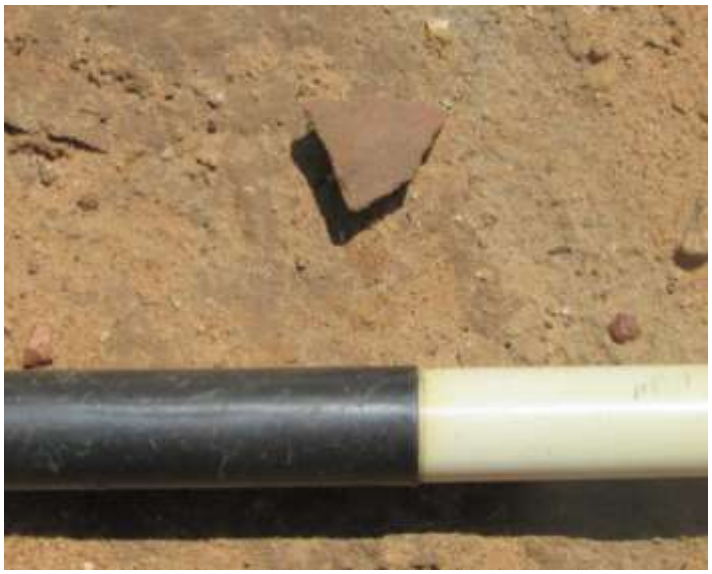

Fig.41: Some pieces of pottery were however found on the site.

Sites 9 & 11: Iron Age

Both these sites – described by Van Schalkwyk as an Early Iron Age open site (Site 9) and an undated Iron Age open site – could not be accessed during the 2016 assessment due to very dense vegetation (both sites are located in the same general area as the Site 2 & 4 Stone Age sites). He recommended archaeological excavations on both sites, giving them Grade III Significance (**Other heritage resources of local importance and therefore worthy of conservation**).

It is proposed that Dr.van Schalkwyk's recommendations as adhered to if the sites are going to be impacted on by the development of the Nwamitwa Dam. The work should be

undertaken in winter time when the vegetation would be less dense and after the current removal of trees for wood and charcoal manufacturing has been completed.

Located on: La Motte 464LT. GPS Locations: S23.78028 E30.47889 (Site 9) & S23.78056 E30.47528 (Site 11)

Fig.42: The dense vegetation seen in the vicinity of Sites 9 & 11. The removal of vegetation (trees & shrubs) during the March 2016 assessment is also evident.

Site 14 – Early Iron Age Site

This site is an Early Iron Age site as described by Van Schalkwyk. It contains pieces of pottery (undecorated and decorated), remains of hut floor and grinding stones. The material is eroding out and was also partially exposed by agricultural activities (ploughing/crop growing/irrigation). The extent of the site is difficult to determine.

It is recommended that the site be archaeologically investigated through test excavations after obtaining a permit from SAHRA prior to development of the Nwamitwa Dam.

Located on: Laborie 515LT. GPS Location: S23.76487 E30.49501

Fig.43: The location of Site 14.

Fig.44: The clay remains of a hut floor on Site 14.

Fig.45: A grinding stone on Site 14.

Fig.46: A piece of decorated pottery from the site.

Sites 16 & 17 – Historical homestead remains

Although Van Schalkwyk recommended in his 2009 report that both these sites require no further mitigation should they be impacted by the development, they were still visited during the 2016 assessment..

The sites is situated relatively close to each other and cultural material such as grinding stones, bricks, glass, metal and others were identified and recorded in the area. A refuse midden was found, as well the remains (foundations) of a rondavel and other homestead remains. These were most likely farm labour houses. The previously unknown grave (New Site 27) recorded here during the 2016 assessment are most likely associated with these remains.

Although it is still recommended that no further mitigation measures are required for the homestead remains, the fact that a formal grave is situated here means that care should be taken if the development of the dam does impact on the site. No work should be done until Grave Site 27 has been successfully relocated and the possibility of unmarked burials located in or around the houses should also be kept in mind.

Located on: Janetsi 463LT. GPS Locations: S23.74361 E30.45361 (Site 16) & S23.74222 E30.45250 (Site 17)

Fig.47: Foundations of rondavel on Site 16.

Fig.48: Grinding stone.

Fig.49: Refuse midden on Site 16.

Fig.50: Grinding stone Site 17.

Fig.51: Enamel bowl on Site 17.

Site 18 – Late Iron Age/Historical Settlement Site

This was described by Van Schalkwyk in 2009 as a historical homestead site that needed to be documented, mapped and photographed. Grave Site 25 is located in close proximity to it.

The 2016 assessment found that the site is quite extensive, containing the remains of a number of huts/rondavels; possible agricultural terraces; granary stands, as well as stone-walled enclosures (livestock enclosures or kraals). Cultural material identified included pottery and grinding stones.

It is recommended that this site is archaeologically investigated through excavations, detailed mapping and drawing and photographic documentation. A permit from SAHRA will be required and the work should be done prior to any development on the Nwamitwa Dam commencing.

Located on: Vallambria 681LT. GPS Location: S23.58386 E30.61112 & S23.58907 E30.60943 (furthest extent recorded in 2016)

Fig.52: Stone walling on Site 18.

Fig.53: Some of the hut/rondavels on Site 18.

Fig.54: A closer view of one of the hut foundations.

Fig.55: Another hut/rondavel and stone walling.

Fig.56: The remains of a possible grain storage bin on Site 18.

New Site 28 – Possible Iron/metal smelting Site

This site was found during the 2016 assessment while searching for Grave Site 24 in the same area. Pieces of a clay furnace blow-pipe (tuyere) were identified and although no other indication of an iron/metal smelting furnace was identified it is possible that such a feature could be present in the area.

It is recommended that should the site be impacted by the development of the dam the site be documented through archaeological test excavations.

Located on: Makube 425LT. GPS Location: S23.63572 E30.50659

Fig.57: Piece of clay furnace blow-pipe.

Fig.58: Another piece of the furnace blow pipe on Site 28.

New Site 29 – Historical homestead remains

This site is also located close to Grave Site 24 and in the same area as Site 28. It contains the remains (foundations) of a stone and clay built square structure and a rondavel similar to that found on Site 18. It is recommended that this site be mapped and documented should the development of the dam impact on the area.

Located on: Makube 425LT. GPS Location: S23.63618 E30.50642

Fig.59: Remains of square stone-packed structure on Site 29.

Fig.60: The remains of a hut/rondavel on Site 29.

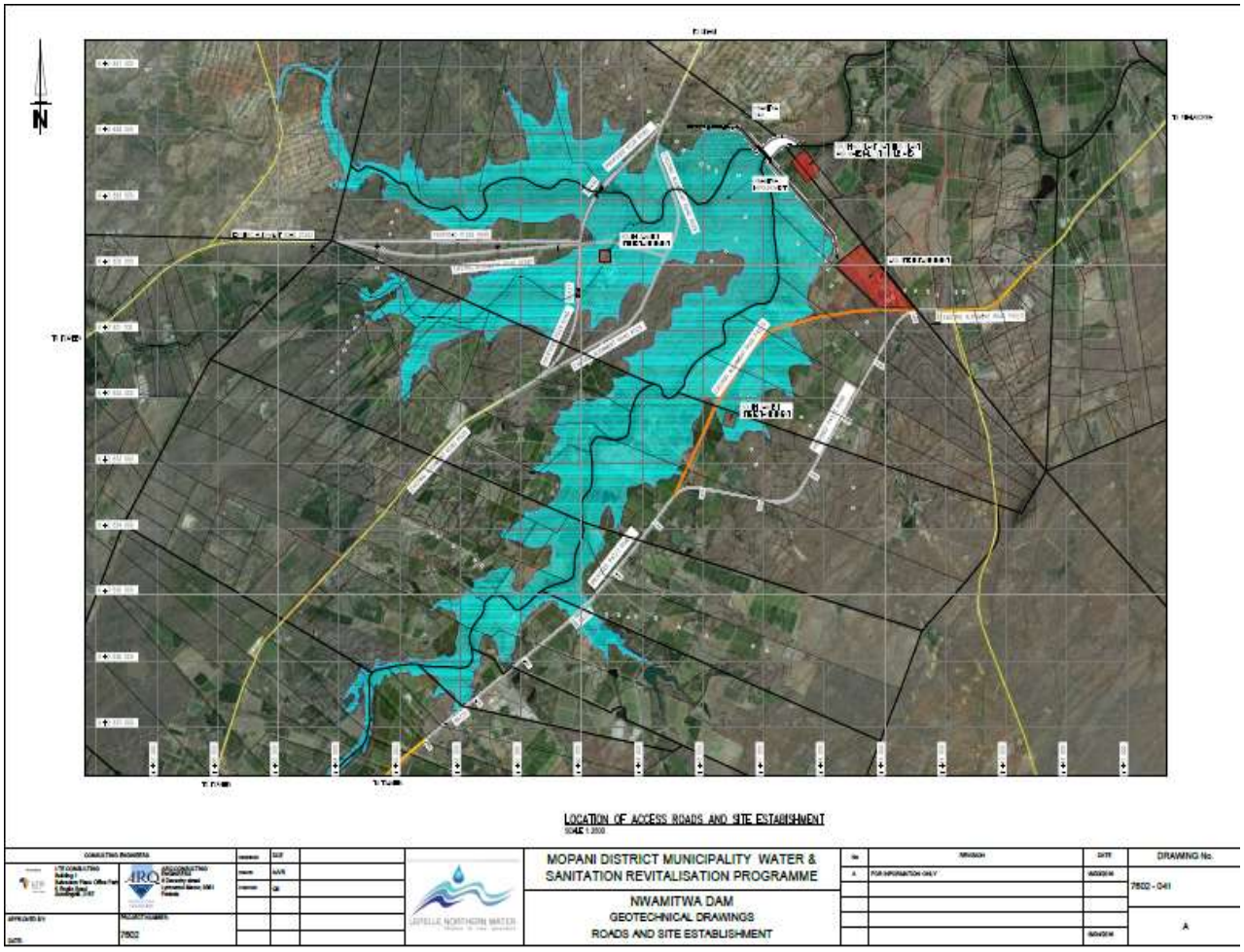

Fig.61: Layout Plan/Map of the Nwamitwa Dam Project showing proposed roads, Site camps and Impoundment area (provided by C&K Environmental).

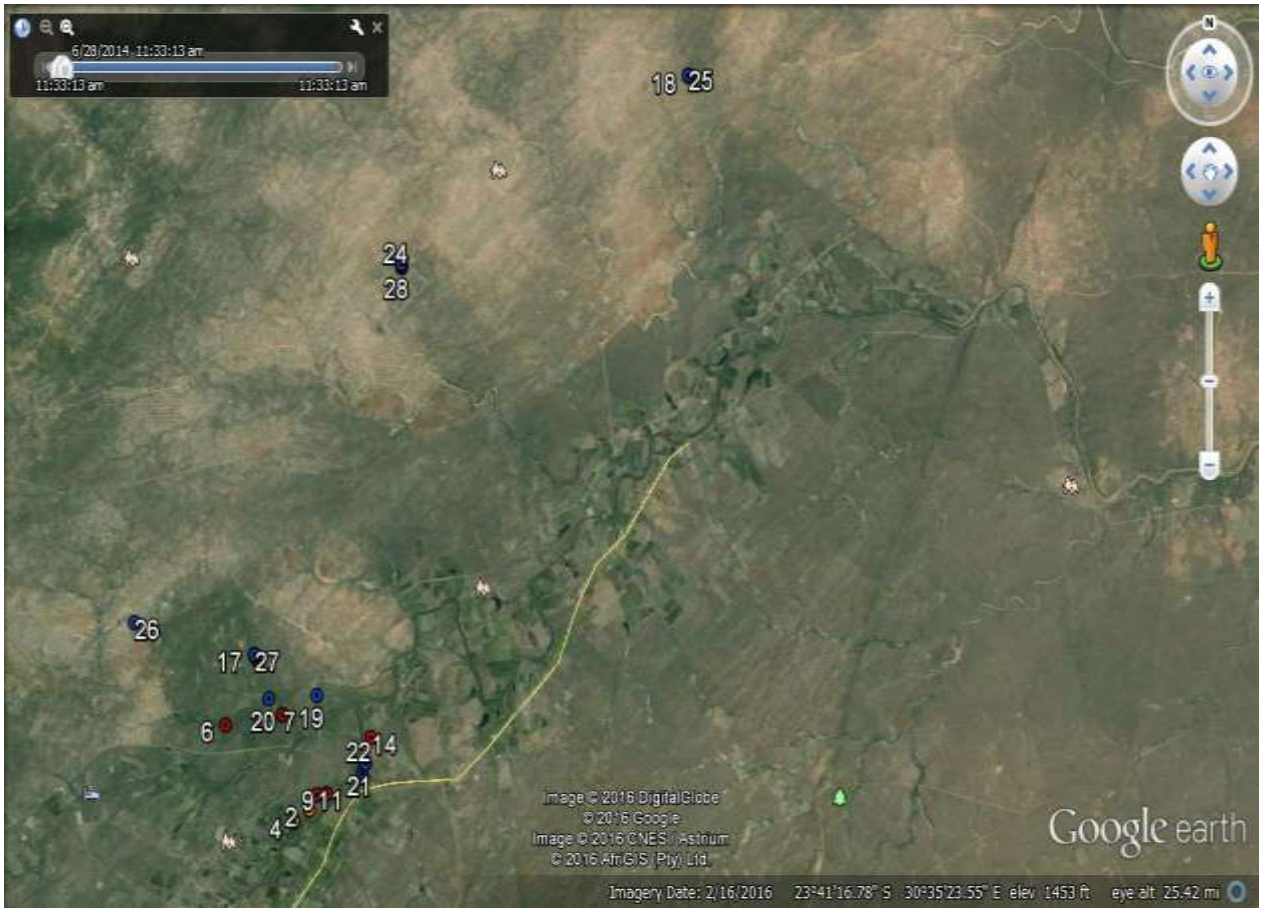

Fig.62: Google Earth image showing distribution of sites assessed and found during the 2016 Assessment. Blue pins = Grave Sites. Red pins = Iron Age/Historical & Yellow Pins = Stone Age (Google Earth 2016).

7. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by C&K Environmental Services (Pty) Ltd, as part of the Construction of Nwamitwa Dam & Associated Infrastructure Development Project, to handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the previous heritage impact assessment (HIA) report submitted by Dr.J. van Schalkwyk. APAC was requested to scrutinize the earlier reports and findings to properly identify and describe not only the grave sites that will be impacted, but also the other cultural heritage (archaeological & historical) sites identified and recorded by Van Schalkwyk. The aim with the preliminary report (prior to the Field Assessment of sites) was to provide information on the processes that need to be followed and adhered to in order to successfully undertake the consultation related work in terms of the graves, obtain the necessary legal permits to exhume and relocated the impacted graves, as well as the negatively impacted archaeological resources.

A total of 26 archaeological and historical sites were identified and recorded by Van Schalkwyk during earlier work for the proposed dam development in the area. This included 5 Stone Age sites; 9 Iron Age sites; 4 sites dating to historic times and 8 sites containing graves. According to Van Schalkwyk all of the identified sites are judged to have Grade III significance. The implication of this was that there were no sites of cultural heritage significance that would prevent the construction of the dam and the associated infrastructure

from taking place. However, he recommended that various mitigation measures needed to be implemented for the identified sites, after obtaining the required permits from SAHRA and other Departments, e.g. the Department of Health.

Van Schalkwyk recommended:

1. Examples of the Stone Age tools occurring in the area should be collected as they are identified, ideally when mitigation of the archaeological sites take place, i.e. when the archaeologists are active in the area. This collection can then be used in a local display on the prehistory of the area, or by local schools in their educational activities.

2. Documentation (mapping and photographing) and limited excavations should be done on the identified Late Iron Age sites.

3. Documentation (mapping and photographing) of some of the identified historic structures should be done.

4. Workshops should be held with members of local communities in order to identify places to which oral traditions are attached or which are associated with living heritage, e.g. initiation sites, sacred sites, battlefields, etc.

5. Graves should be relocated only after consultation with descendants.

6 Workshops should be held by the archaeologists/heritage consultants with the construction crew, at least at section head level in order to sensitize them about what to expect and how to act if something is uncovered.

7. A direct link should be established by the developers with the archaeologist, who should be on call at all times, in the event that something is uncovered.

The March 2016 Field Assessment of sites identified and recorded during earlier surveys (and for this report is the result) focused on those sites that Dr.Van Schalkwyk recommended mitigation measures for. Those sites that need no further mitigation work was no re-visited and assessed again. A few previously unidentified and unrecorded sites were also found during the 2016 fieldwork session and are discussed in the report. The following is recommended regarding the required mitigation measures that needs to be implemented before the development work commences:

Grave Sites

There are **9** grave sites in total with **1, Site 27**, identified and recorded during the 2016 assessment. A total of **approximately 30** graves are present on these sites. Of these sites only **Sites 24 (with 1 grave)** & **25 (with 2 graves)** seems to fall outside of the impact area. The grave sites assessed and recorded are:

Sites 19, 20, 21, 22, 23, 24, 25, 26 & 27.

In terms of the Grave Investigation, Exhumation & Relocation Process the following is recommended:

(a) The appointment of a registered undertaker once the final approvals of the Nwamitwa Dam Project have been provided.

(b) Detailed Social Consultation with Community Forums, families/descendants of the deceased, farm workers and farm owners in order to identify the deceased individuals and to obtain Consent from the descendants for the investigation, exhumation & relocation of all the graves. As part of this process Site Notices, Newspaper and Radio Advertisements and Flyers will also be done

(c) Once social consultation has been successfully completed permit applications have to be prepared and submitted to the various Local and National Government Departments and Institutions/Authorities which includes SAHRA, COGTA, Provincial and National Health Departments, Local Government and Councils, as well as the SAP.

Once the permits have been issued the physical investigation, exhumation and relocation of the graves can be scheduled and completed. It should be noted here that there is always a possibility that during the consultation process more previously unknown graves and grave sites could be pointed out and identified. With such a large area covered by the Project Footprint there is always the chance that sites could have been missed. Factors such as dense vegetation, low stone-packed or unmarked graves, as well as the location of possible burials in and around homesteads plays a part here and the number of graves involved could increase as a result.

It was recommended during a recent April 2016 Project Meeting that further work regarding the graves should be put on hold until further notice in regards to the continuation of the Project and that the focus should be on implementing mitigation measures in terms of the archaeological sites that will be impacted by the Nwamitwa Dam.

Archaeological (Stone Age, Iron Age & Historical Sites)

Twelve (12) sites in total were assessed and recorded, with **2 new sites** (**Sites 28 & 29**) first identified during the March 2016 fieldwork. Of the 12 sites it seems as if **Sites 18** and both **Sites 28 & 29** fall outside the area of impact. The sites assessed and recorded in 2016 are:

Sites 2, 4, 6, 7, 9, 11, 14, 16, 17, 18, 28 & 29. Of these sites, No's 16 & 17 need no further mitigation, although the close proximity of Graves Site 27 to them will necessitate closer scrutiny for the possible presence of other unknown burials close to or inside the homestead remains. The following is recommended in terms of the mitigation of these sites:

(a) Sites 2 & 4: Open-air Stone Age – Surface sampling (collection of stone tools representative of the area and sites) and mapping. Obtain SAHRA Permits before destruction.

(b) Sites 6, 7, 9, 11 and 14: Iron Age sites. Archaeological excavations, mapping and detailed recording. Obtain SAHRA permits before destruction.

For the permit applications consent from the current landowners where these sites are located will also have to be obtained for the work to be conducted here. This includes farm owners, Tribal authorities and communities.

It is furthermore recommended that a secondary assessment of the impact area be undertaken before the archaeological mitigation of the above sites is undertaken. The area is large and it was not possible during the earlier (1996, 2009 and March 2016) surveys to access all areas due to dense vegetation etc. There is therefore a possibility that more previously unknown sites (including graves) could exist in the Project Area. All borrow pit areas, Site Camps areas, construction roads/access road/new road alignments and the dam wall and other construction areas should be assessed.

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APPENDIX A
DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B
DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aestetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C
SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance

- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate

- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

i. National Grade I significance: should be managed as part of the national estate

ii. Provincial Grade II significance: should be managed as part of the provincial estate

iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)

iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/ medium significance)

v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)

vi. General protection B (IV B): site should be recorded before destruction (medium significance)

vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D
PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II
Protected areas - An area surrounding a heritage site
Provisional protection – For a maximum period of two years
Heritage registers – Listing Grades II and III
Heritage areas – Areas with more than one heritage site included
Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states
Structures – Older than 60 years
Archaeology, palaeontology and meteorites
Burial grounds and graves
Public monuments and memorials

APPENDIX E
HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.

2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.

3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.

4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.

5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.

6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.