



**Archaeological and Heritage Impact
Assessment Report for Proposed Thornhill
Bulk Water Supply Project (Nqadu
Corridor) within OR Tambo Local
Municipality in the Eastern Cape Province**

December 2013



Final Report

Archaeological and Heritage Impact Assessment (A/HIA) for proposed Thornhill Bulk Water Supply Project (Nqadu Corridor within OR Tambo Local Municipality of the Eastern Cape Province

December 2013

For and on behalf of
GIBB Engineering and Science

Approved by: Dr. McEdward Murimbika

Signed:



*Position :*Principal Investigator

Date: December 2013

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Document information

TITLE: ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT REPORT FOR:	
PROPOSED THORNHILL BULK WATER SUPPLY PROJECT (NQADU CORRIDOR) WITHIN OR TAMBO LOCAL MUNICIPALITY IN EASTERN CAPE PROVINCE.	
PURPOSE OF SCOPE: The purpose of this document is to describe the cultural values and heritage factors that may be impacted on by the proposed construction of the proposed development. The proposed Thornhill Bulk Water Supply development is located in Eastern Cape Province.	
DOCUMENT VERIFICATION	
Signature:	Position:
Name:	Date:
Consulted Elizabeth N. of Gibb Engineering and Science Environmental Division to review the document. The document also went through Nzumbululo Heritage Solutions Quality Assurance Department for internal review.	
ENDORSED Client Project Responsible Officer to sign off.	
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Dr Murimbika Reference	Thornhill Bulk Water Supply Project (Nqadu Corridor)

Caveat

This HIA Report has been prepared for Gibb Engineering and Science by Nzumbululo Heritage Solutions for the expressed purpose of fulfilling the requirements of the National Heritage Resources Act, Act 25 of 1999 and SAHRA regulations in terms of Sec. 38 of the Act.

Authorship: This Report has been prepared by Dr. M. Murimbika (Principal Investigator & Professional Archaeologist) assisted by Mr T Mlilo for Nzumbululo Heritage Solutions. The report is for the review of the Heritage Resources Agency (PHRA).

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Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer: The Author is not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation for proposed Nqadu bulk water supply project.

Signed by Principal Investigator:



McEdward Murimbika (Ph.D.), December 2013.

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1. EXECUTIVE SUMMARY

1.1. Background

Gibb and Engineering and Science appointed Nzumbululo Heritage Solutions to conduct an Archaeological and Heritage Impact Assessment (AIA/HIA) Study for the proposed Thornhill Bulk Water Supply Project within OR Tambo Local Municipality in the Eastern Cape Province. This report includes an impact study on potential archaeological and cultural heritage resources that may be associated with the proposed development.

1.2. Method Statement

The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed bulk water supply project. This study was conducted as part of the specialist input for the Environmental Impact Assessment exercise.

1.3. Nature of Proposed Development

This study is part of an EIA exercise triggered by the proposed Thornhill Bulk Water Pipeline construction project in OR Tambo District in Eastern Cape Province. The proposed Nqadu pipeline has two nodes. The first stretch from Mavete Vilage to Lower Gungululu Village. The second node traverse from Lower Gungululu to Nqadu Village.

1.4. Project Area

The proposed Nqadu pipeline has two nodes. The first stretch from Mavete Vilage to Lower Gungululu Village. The second node traverse from Lower Gungululu to Nqadu Village. The first node will run along a narrow corridor along existing road servitude in densely built up area. The proposed development is situated in Ncambedlane, Sibangweni, Gungululu, and Nqadu area within OR Tambo Local Municipality in the

Eastern Cape Province. The proposed bulk water supply pipeline will T-off from Mavete Village and will run along the Mavete-Gungululu Road cutting through several villages and old agriculture fields. From Lower Gungululu reservoir the proposed pipeline route will cut through old agriculture fields and will cross the Ncambele and Qolombana rivers. It will also cut through built up areas at Qolombana and Nqadu settlements.

1.5. The Heritage Impact Assessment Process

This HIA study report is segmented into sections as follows:

1. Executive Summary,
2. Project Background,
3. HIA on the Project Receiving Cultural Landscape project area in line with the NHRA (*Act 25 Section 38*), and
4. Heritage Management Recommendations for immediate project receiving area covering the development, operation to closure phases of the project.

The impact assessment study also includes detailed recommendations on how to mitigate and manage negative impacts while enhancing positive effects on the project area.

1.6. The Legal Framework and Guidelines

This HIA study is a specialist study to the EIA process and it is guided by the:

- National Heritage Resources Act, (*Section 38 of Act 25 of 1999*)
- SAHRA AMP HIA Guideline
- Terms of Reference provided to Nzumbululo Heritage Solutions (*2012*).

All South African heritage assets are protected by the National Heritage Resources Act of 1999, which makes it an offence to destroy heritage resources without permission from the relevant authority. In terms of the provisions of the NHRA Act of 1999, individual sites within the project area enjoy the varying levels of protection in the country.

1.7. Results of the Study

The proposed Nqadu pipeline has two nodes. The first stretch from Mavete Village to Lower Gungululu Village. The second node traverse from Lower Gungululu to Nqadu Village. The first node will run along a narrow corridor along existing road servitude in densely built up area. Analysis of the archaeological, cultural heritage, environmental and historic contexts of the project area predicted that archaeological sites (Stone Age and Historic Archaeological), cultural heritage sites, burial grounds or isolated artifacts were likely to be present on the affected landscape. The field survey was conducted to test this hypothesis and verify this prediction within the proposed Nqadu bulk water supply servitude. The project receiving areas are situated on previously disturbed land parcels. The homesteads that flank the servitude are dotted with several burial grounds and grave sites and historic buildings and structures.

1.8. Recommendations

The following recommendations are made in this report:

- The planners for the Nqadu corridor must plan carefully to avoid burial sites that occur on both sides of the road servitude within 10m to 35m from the proposed pipeline servitude. The pipeline route is by far the most sensitive of them all. The project area has considerable existing built-up areas and as such no significant impacts are anticipated on the built environment given the existence of contemporary built-infrastructure or structures already in the project area.
- Low visibility emanating from the proposed Nqadu bulk water supply development is anticipated, particularly during the construction phase. Furthermore, the project area has existing commercial, industrial and residential developments in place, which will absorb the proposed developments in situ once the project becomes operational. Therefore the visual impacts of the bulk water supply infrastructure are considered to be very low across the receiving contemporary cultural landscape. No mitigation is

proposed because the receiving environment is currently in built up areas, with existing minor reticulation powerlines and township settlements with their associated infrastructure and other bulk and service infrastructures.

- The stretch from Mavete Village to Lower Gungululu is very narrow and dotted with graves on both sides of the servitude. As such the overall, impacts to burial sites along the servitude are considered to be highly significant. Although the project may be cleared to proceed as planned the planners must make every effort to avoid impacting on any of the burial sites recorded in the vicinity of the proposed servitude. Furthermore the Heritage Authority should ensure that detailed heritage monitoring procedures are included in the project EMP for the construction phase. These should include chance archaeological finds mitigation procedure in the project EMP specifically to cover subsurface construction activities.
 - The chance finds process will be implemented when necessary especially when archaeological materials and burials are encountered during subsurface construction activities.
 - If archaeological materials are uncovered, work should cease immediately and the SAHRA be notified and activity should not resume until appropriate management provisions are in place.
- In the event that previously unknown human remains are accidentally uncovered during development, then work on affected section and the immediate vicinity should be halted and the finds protected and reported to SAHRA.

ABBREVIATIONS

AIA	Archaeological Impact Assessment
APPA	Atmospheric Pollution Prevention Act 45 of 1965
BID	Background Information Document
C	Contractor
CARA	Conservation of Agricultural Resources Act, 1983 (Act No 43)
CECO	Construction Environmental Conservation Officer
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DSR	Draft Scoping Report
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act
ECO	Environmental Conservation Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EM	Environmental Manager
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
EMPR	Environmental Management Programme Report
EMS	Environmental Management System
FC	Farming Community
GN	General Notice
GNR	General Notice Regulation
Ha	Hectares
HIA	Heritage Impact Assessment
HMP	Heritage Management Plan
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IRR	Issues and Responses Report
IWULA	Integrated Water Use Licence Application
LEDET	Eastern Cape Department of Economic Development,

LIA	Late Iron Age
LFC	Late Farming Community
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NEMAQA	National Environmental Management: Air Quality Act 39 of 2004
NEMPAA	National Environmental Management Protected Areas Act
NEMWA	National Environmental Management: Waste Act 59 of 2008
NGO	Non-Government Organisation
NHRA	Nation Heritage Resources Act, Act 25 of 1999
PM	Project Manager
SAHRA	South African Heritage Resources Agency
SM	Site Manager
ToR	Terms of Reference

DEFINITIONS

The following terms used in this Archaeological /Heritage Impact Assessment are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

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

Chance Finds means 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.

Compatible use means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Cultural Heritage Resources Same as **Heritage Resources** as defined and used in the National 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 means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural Significance also encompasses 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.

Environment The surroundings within which humans exist and that are made up of:

- i. the land, water and atmosphere of the earth;
- ii. micro-organisms, plant and animal life;
- iii. any part or combination of (i) and (ii) and the interrelationships among and between them; and,
- iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being. This includes the economic,

social, cultural, historical and political circumstances, conditions and objects that affect the existence and development of an individual, organism or group.

Environmental impact assessment An Environmental Impact Assessment (EIA) refers to the process of identifying, predicting and assessing the potential positive and negative social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the environment. The EIA includes an evaluation of alternatives. As well as recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and environmental management and monitoring measures.

Expansion means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;

Fabric means all the physical material of the place including components, fixtures, contents and objects.

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 (*contemporary*) or **Burial Ground** (*historic*).

Heritage impact assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

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.

Impact The positive or negative effects on human well-being and / or on the environment.

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

Interested and affected parties Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation means all the ways of presenting the cultural significance of a place.

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

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

Mitigate The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Protected area means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers;

Public participation process A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters

Setting means the area around a place, which may include the visual catchment.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (*i.e. intensity, duration and likelihood*). Impact significance is the value placed on the change by different affected parties (*i.e. level of significance and acceptability*). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (*i.e. biophysical, physical cultural, social and economic*).

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

Use means the functions of a place, as well as the activities and practices that may occur at the place.

2. INTRODUCTION

2.1. Background

Gibb Engineering and Science appointed Nzumbululo Heritage Solutions to conduct an Archaeological and Heritage Impact Assessment (AIA/HIA) study for the proposed Thornhill Bulk Water Supply project (Nqadu Corridor) on behalf of OR Tambo Municipality in the Eastern Cape Province. The AIA and HIA study report there from is for evaluation by the heritage authorities. The proposed Nqadu pipeline has two nodes. The first stretch from Mavete Village to Lower Gungululu Village. The second one traverse from Lower Gungululu to Nqadu Village. The first node will run along a narrow corridor along existing road servitude in densely built up rural settlement area. The second node traverses largely through open grazing and old agricultural fields and terminate at proposed water reservoir in Nqadu Village.

This report details the desktop study, review of previous heritage assessment studies conducted during the EIA specialist studies, field study and present results of the study as well as discussion on the anticipated impacts of the proposed development as is required by the National Heritage Resources Act, Act 25 of 1999 Section 38. It focuses on identifying and assessing potential impacts on archaeological, as well as on other physical cultural properties including historical heritage and intangible resources in relation to the proposed bulk water supply development.

The study was designed to ensure that any significant cultural, physical property or sites and related intangible heritage resources are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the proposed development. The assessment includes recommendations to manage the expected impact of the development site. The report includes recommendations to guide heritage authorities in making appropriate decision with regards to Heritage Management Planning.

Nzumbululo team conducted the assessment; research and consultations required for the preparation of this HIA report in accordance with its obligations set in the HIA-THORNHILL BULK WATER SUPPLY PROJECT IN OR TAMBO LOCAL MUNICIPALITY OF EASTERN CAPE PROVINCE, 2013- 16 -

NHRA as well as the environmental management legislations. In line with SAHRA guidelines, this report provides:

- 1) Management summary
- 2) Methodology
- 3) Information with reference to the desktop study
- 4) Map and relevant geodetic images and data
- 5) GPS co-ordinates
- 6) Directions to the site
- 7) Site description and interpretation of the cultural area where the project will take place
- 8) Management details, description of affected cultural environment, photographic records of the project area
- 9) Recommendations regarding the significance of the site and recommendations regarding further monitoring of the site
- 10) Conclusion.

2.2. NATURE OF PROPOSED DEVELOPMENT

The proposed development involves establishment of new Thornhill Bulk Water Supply infrastructure along the Nqadu Corridor in the Ncambedlane, Sibangweni, Gungululu, Qolombane and Nqadu areas of the OR Tambo Local Municipality of the Eastern Cape Province (Figures 1, 2 & 3). The Nqadu Corridor pipeline has two nodes. The first stretch from Mavete Vilage to Lower Gungululu Village. The second node traverses from Lower Gungululu to Nqadu Village. The first node will run along a narrow corridor along existing road servitude in densely built up rural settlement area. The second node traverses largely through open grazing and old agricultural fields and terminate at proposed water reservoir in Nqadu Village. The proposed bulk water pipeline will T-off from Mavete connection point and will run along Ngwevana-Gungululu road servitude and will terminate at Lower Gungululu. Another node will T-off from Lower Gungululu and will run to the west towards Nqadu settlement. Three new reservoirs will be constructed at KwaNdungwana, Lower Gungululu and at Nqadu terminal point. The pipeline covers an approximate stretch of 40km.

2.3. STATUTORY REQUIREMENTS

This HIA report is a component of a broader EIA Study and addresses the requirements of the NHRA Act 25 of 1999 Section 38 and EIA Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment. The legislations requires that when constructing a linear development exceeding 300m in length or developing an area exceeding 5000 m² in extent, the developer must notify the responsible heritage authority of the proposed development and they in turn must indicate whether an impact assessment is required. The NHR Act notes that “any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent”, the heritage authority here being Provincial Authority (PHRA).

The statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Resources Act, Act 25 of 1999 and auxiliary regulations. The National Heritage Resources Act (NHRA) No. 25 of 1999 protects all defined heritage resources including palaeontological, prehistoric and historical material (including ruin) more than 100 years old (*under Section 35*), human remains older than 60 years and located outside of a formal cemetery administered by a local authority (*under Section 36*) and non-ruined structures older than 60 years (*under Section 34*). A broader protection is also offered to Landscapes with cultural significance, which are also protected under the definition of the National Estate (*Section 3 [3.2d]*).

Specific to this study, Section 38 (2a) emphasises that if there is reason to believe that heritage resources will be affected by any proposal to change the status quo, and then an impact assessment report must be submitted. This study is therefore conducted in pursuit of this requirement. Given the fact that this study is subject to the issued EIA and EMP authorisations, the heritage authorities are required to provide comments on the proposed project.

2.4. HIA STUDY TERMS OF REFERENCE

Nzumbululo Heritage Solutions was requested to conduct an HIA study under the guidance of the requirements of Section 38(3) of the NHRA. As outlined in the introduction section, the activities would include:

1. Hypothesising and Conducting a detailed desk-top level investigation to identify all archaeological, cultural and historic sites in the proposed bulk water supply infrastructure project receiving areas;
2. Conduct appropriate physical cultural properties field work and survey to verify results of desktop investigation;
3. During the field survey, document (*GPS coordinates and map*) all archaeological and heritage sites, objects and structures and physical cultural properties identified within the project's receiving environment;
4. Compile a Heritage Impact Assessment report which would include:
 - a. Identification of archaeological, cultural and historic sites within the affected development areas;
 - b. Assess the sensitivity and significance of archaeological remains within the affected development areas;
 - c. Estimation and evaluation of the potential impacts of the proposed construction, operation and maintenance of the proposed development on archaeological, cultural and historic sites in the proposed project receiving areas;
 - d. Measure the impacts in terms of the scale of impact
 - e. Provide appropriate Recommendation of mitigation measures that may add positive impacts while reducing the identified negative impacts on archaeological, cultural and historic sites in the proposed project receiving areas;
 - f. The recommendations should be applicable enough to effectively guide the compliance authorities in issuing a decision regarding the authorisation of the proposed development.
 - g. Consideration of relevant PHRA and SAHRA as well and international best practices guidelines; and,

- h. Development Heritage Management Planning guideline: “Guideline for involving heritage stakeholders in the processes”.

In essence, both the national heritage and environmental legislations provide protection for the following categories of heritage resources:

- o Landscapes, cultural or natural;
- o Buildings or structures older than 60 years;
- o Archaeological Sites, palaeontological material and meteorites;
- o Burial grounds and graves;
- o Public monuments and memorials;
- o Living heritage (defined as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships).

2.5. LOCATION OF ACTIVITY AREA AND IMPACT AREA

The proposed development is situated on the Ncambedlane 10, Sibangweni 9, Gungululu 27 and Qolombana 26, within the OR Tambo Local Municipality of the Eastern Cape Province (see Figures 1, 2 & 3). A large section of the Nqadu pipeline servitude is located along road and boundary fence line servitude, old agriculture fields, grazing land and built up settlements along the pipeline route.

The project area is part of an existing and previously developed and disturbed landscape with main roads; access roads, bulk and distribution water reticulation pipelines and infrastructure, and other auxiliary infrastructures dominate the affected project area. Furthermore the considerable portions of the project area were previously cleared for agriculture purposes.

Figure 1: Topographic Map showing the study area and layout of the proposed Nqdu Corridor Pipeline development (After Gibb Engineering and Science 2013).

Field Maps



THORNHILL BULK WATER PROJECT

(Nqadu Corridor combined Map)

Legend

- Secondary_Roads
- Main_Roads
- Railways
- National_Roads
- SubPlace_Polygon
- ParentFarms
- Nqadu Corridor combined

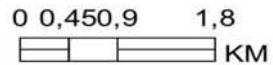
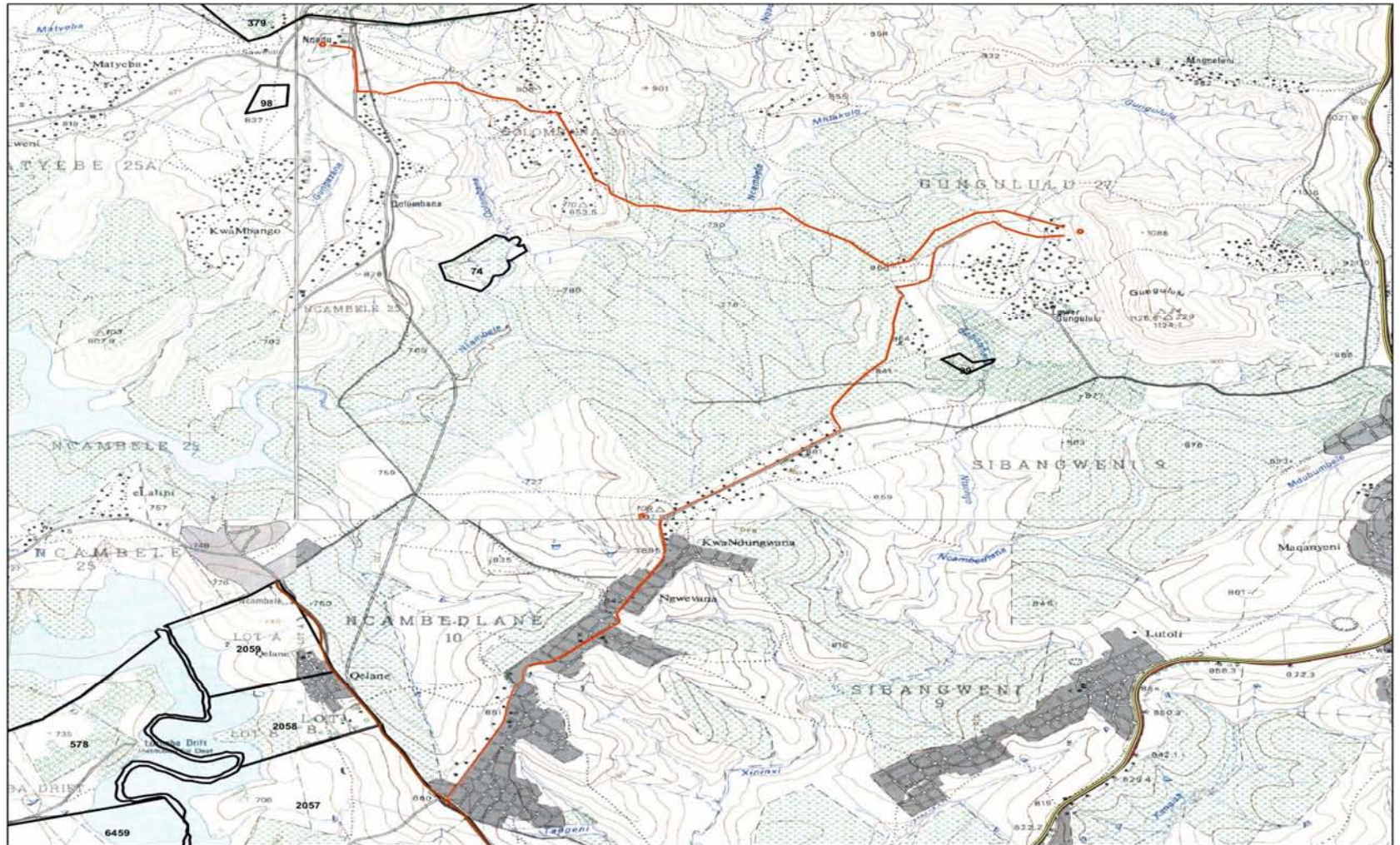


Figure 2: Overall layout of the proposed Thornhill Bulk Water supply pipeline project in OR Tambo District in Eastern Cape Province (Source: Adapted from Gibb 2013).

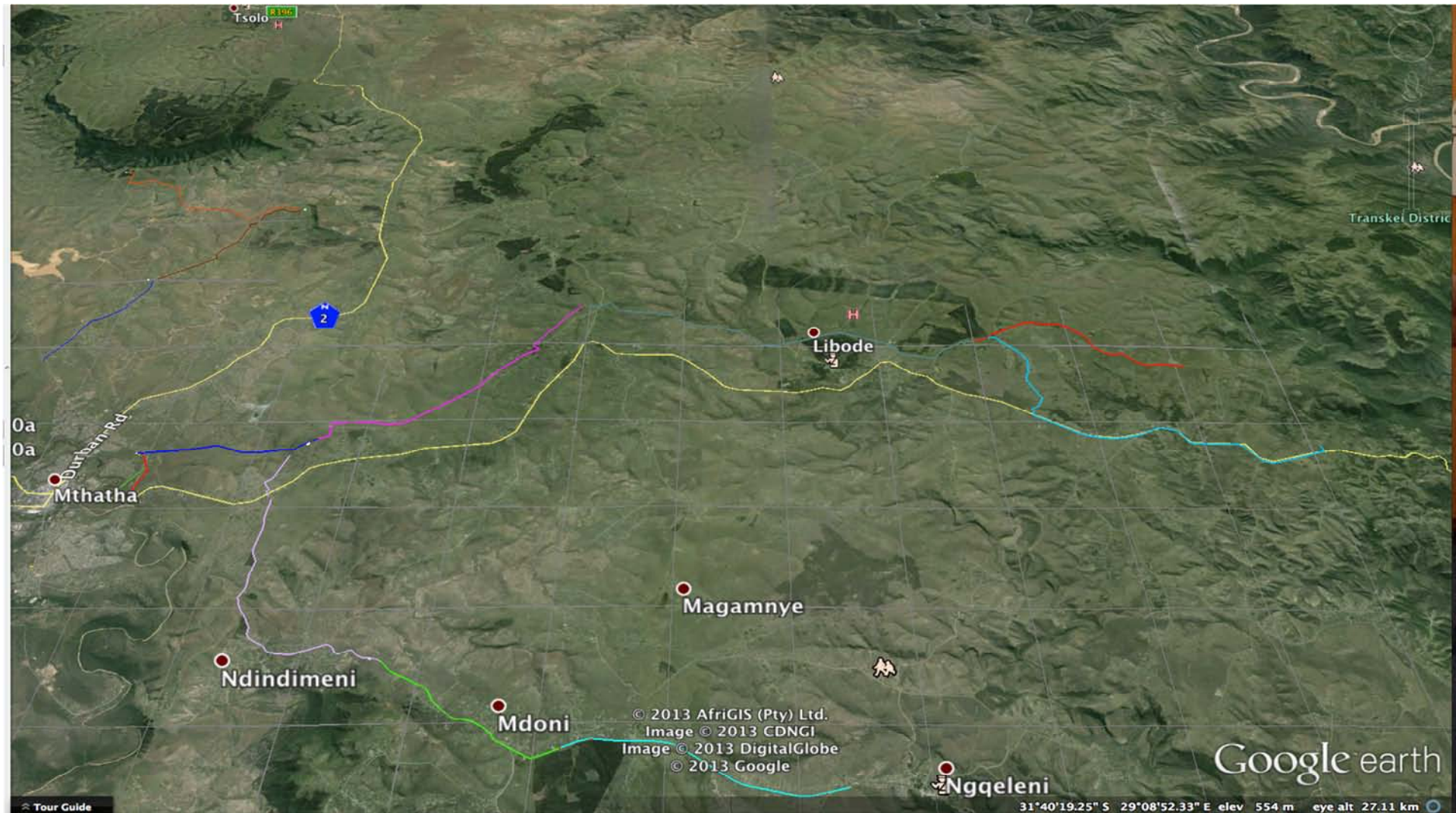
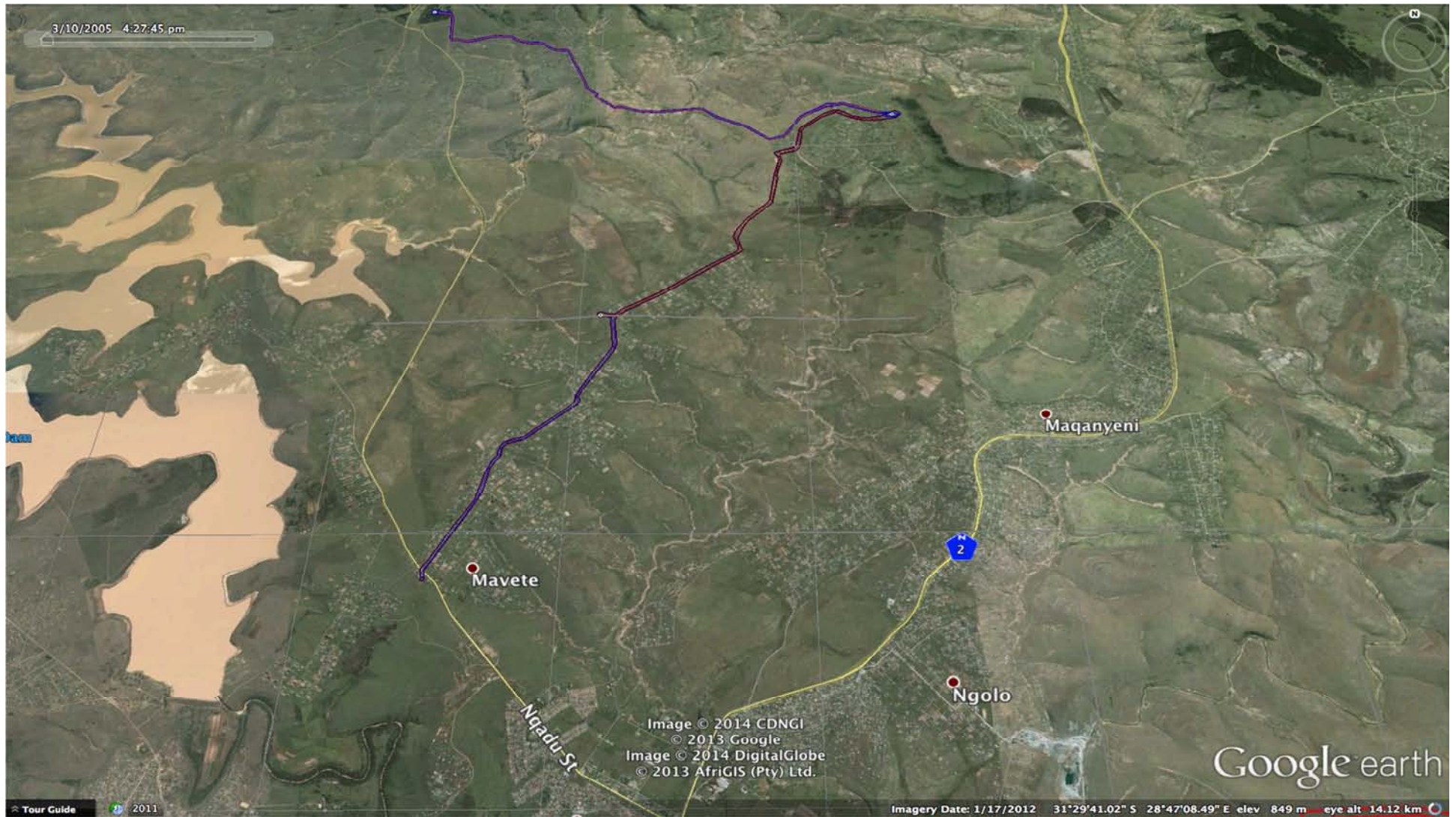


Figure 3: Aerial layout of the proposed Thornhill Bulk water Pipeline development -Nqadu Corridor (Adapted from Google Earth, 2013).



3. METHODOLOGY

The study method in this study refers to the SAHRA Policy Guidelines for impact assessment. A primary field survey was conducted covering the entire powerline route on foot. This was supplemented by additional secondary data from previous studies and HIA/AIA spanning data. As part of this AIA/HIA exercise, the following tasks were conducted: 1) site file search, 2) limited literature review, 3) completion of a field survey and assessment and 4) analysis of the acquired data and report production. Fulfil the statutory requirements of the National Heritage Resources Act, Act 25 of 1999.

- To identify and describe, (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the proposed powerline project. This study should include where appropriate, identify sites and features of traditional historical, social, scientific, cultural and aesthetic significance within the affected study area; the identification of gravesites.
- Assess the significance of the resources where they are identified.
- Evaluate the impact thereon with respect to the socio-economic opportunities and benefits that would be derived from the proposed development.
- Provide guidelines for protection and management of identified heritage sites and places (including associated intangible heritage resources management that may apply).
- Consult with the affected and other interested parties, where applicable, in regard to the impact on the heritage resources in the project's receiving environment.
- Make recommendations on mitigation measures with the view to reduce specific adverse impacts and enhance specific positive impacts on the heritage resources.

Take responsibility for communicating with the SAHRA and other authorities in order to obtain the relevant permits and authorization with reference to heritage aspects.

Geographic coordinates were obtained with a handheld Garmin GPS global positioning unit. Photographs were taken as part of the documentation process during field study.

The following specific tasks were undertaken:

- o Preparation of a predictive model for archaeological heritage resources in the study area.
- o A review and gap analysis of archaeological, historical and cultural background information, including possible previous heritage consultant reports specific to the affected project area, the context of the study area and previous land use history as well as a site search;
- o Field survey of the bulk water supply servitude;
- o Physical cultural property recording of any identified sites or cultural heritage places;
- o Identification of heritage significance; and
- o Preparation of HIA report with recommendation, planning constraints and opportunities associated with the proposed development.

3.1. Assumptions and Limitations

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, and the sections exposed by erosion or earth moving disturbances. Most coordinates and photos for burial sites were taken from the road servitude because of their sensitivity and lack of access to fenced homesteads where they occur. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information would apply. It should however, be noted that these do not invalidate the findings of this study in any significant way:

1. The proposed Ngadu Bulk Water Supply project will be limited to specific right of way sites and laydown areas as detailed in the bulk water supply development layout (see figure 1).

2. The construction teams to work at the development site and service sites will use the existing access roads and there will be no major deviations into undisturbed sections.
3. Given the extensive degraded nature on most affected project area and the level of high existing developments within the affected landscape, most sections of the project area have low potential to yield high significant in situ archaeological or physical cultural properties.
4. No excavations or sampling was undertaken, since a permit from heritage authorities is required to disturb a heritage resource. As such the results herein discussed are based on surface indicators. However, these surface observations concentrated on accessible areas.
5. No Palaeontological study was conducted as part of this HIA.
6. This study did not include any ethnographic and oral interviews. The existing studies from current and historic researches are accepted as adequate for the purposes of this HIA.

3.2. Consultation

No independent community consultation was conducted during this phase of the A/HIA study. However, the EIA Public Participation Process invited comments from affected communities and other interested parties on any matter related to the proposed Nqadu bulk water supply development including heritage concerns that may arise as a result of the proposed development.

4. BRIEF CULTURE HISTORY BACKGROUND OF THE PROJECT AREA

The project area is located in the north east of Mthatha town in the OR Tambo Local Municipality of Eastern Cape Province of South Africa that boasts a rich traditional history of prehistoric hunter gatherer communities, the late proto-historic and contemporary Xhosa communities as well as the colonial and settler communities and the recent peopling of the region.

The earliest residents of the Eastern Cape region were the hunter-gatherers associated with Early, Middle and Late Stone Age Traditions. Stone Age sites are generally identifiable by stone artefacts found scattered on the ground surface, as deposits in caves and rock shelters as well as in eroded gully or river sections. Archaeological sites recorded in the project region confirms the existence of Stone Age sites that conform to the generic SA periodization split into the Early Stone Age (ESA) (2.5 million years ago to 250 000 years ago), the Middle Stone Age (MSA) (250 000 years ago to 22 000 years ago) and the Late Stone Age (LSA) (22 000 years ago to 300 years ago). Stone Age sites in the region are also associated with rock painting sites. Cave sites also exist on the landscape south west of the project area. About 2000 years ago, the Khoekhoe herders moved into the region introducing first animal husbandry in the area.

From an archaeological perspective, the Mthatha area, like most of Eastern Cape region has potential to yield Stone Age period sites (also see Deacon and Deacon, 1997; 1999). Little specific is known about the archaeology of the specific pipeline servitude, mainly because no systematic research has been conducted on the area. However, the specific affected project-receiving environment has low potential for Stone Age sites since the affected areas consists of previously open velds which does not usually yield such sites. Stone Age sites are usually associated with caves and rock shelters some of which contain rock art paintings. Another class of common archaeological heritage associated with Stone Age periods are coastal shell middens that were campsites and cooking platform (Binneman 2001, 2005).

The Mthatha region of Eastern Cape also saw the immigration of the Bantu-speaking farmers associated with Late Iron Age. These came to be known as the southern Nguni Xhosa speaking communities (also see Hammond-Tooke, 1992 and Huffman, 2007).

From the 1700s, the EC coastlands and hinterlands also witnessed the spread of colonial and settler communities. This marked more than a century of colonial wars, contestations and establishment of new settler settlements and towns. The town of

Mthatha itself has its origins in the colonial villages dating to mid 1800s. Eventually, this effectively ushered in new era of colonial occupation by succeeding Afrikaans and British colonial administration authorities through the last half of the 1800s and into the late 1900s. By 1850s the region witnessed the influx of more settler communities, which triggered settler wars between the African chiefdoms and the incoming settlers. Some of these colonial wars and battles lasted into Anglo-Boer wars of 1899-1902. The later effectively led to complete subjugation of African communities to settler administration starting as part of the British Cape colony. There after the region was subsequently annexed by the British and effectively placed the majority of African communities under the Union of South Africa in 1910, which eventually ended with the establishment of the new South Africa in 1994.

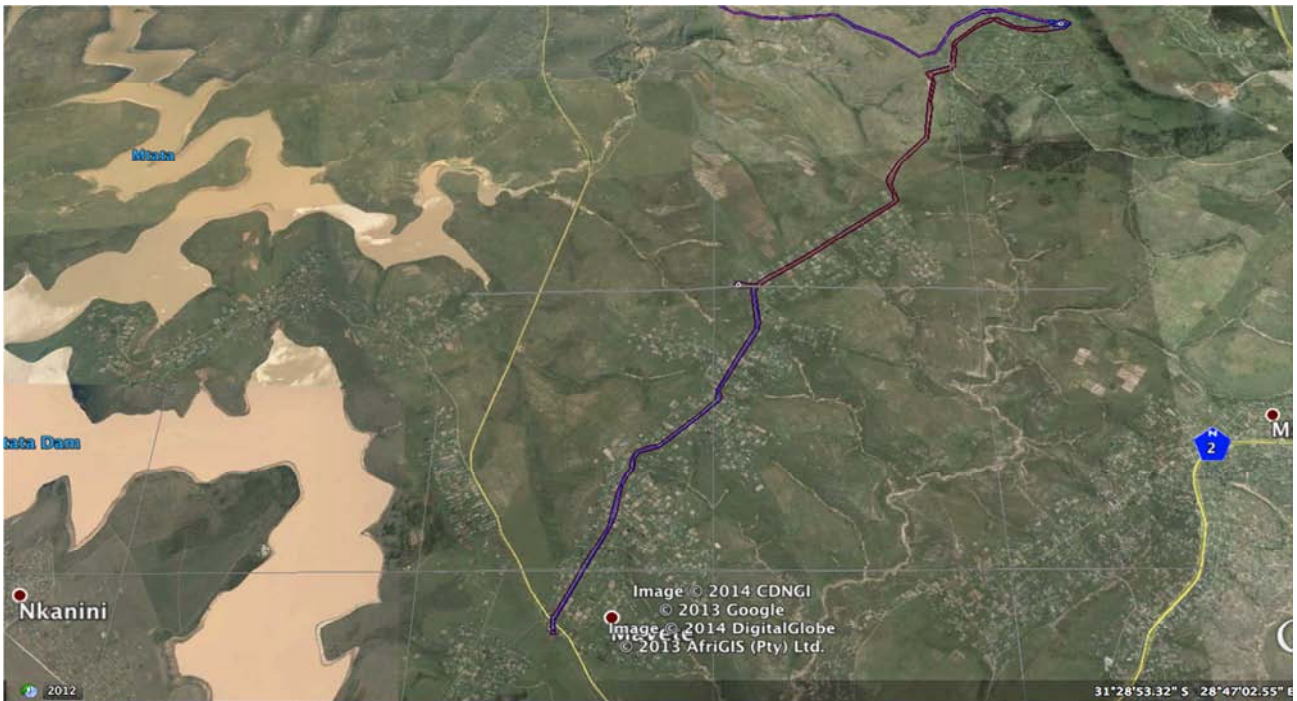
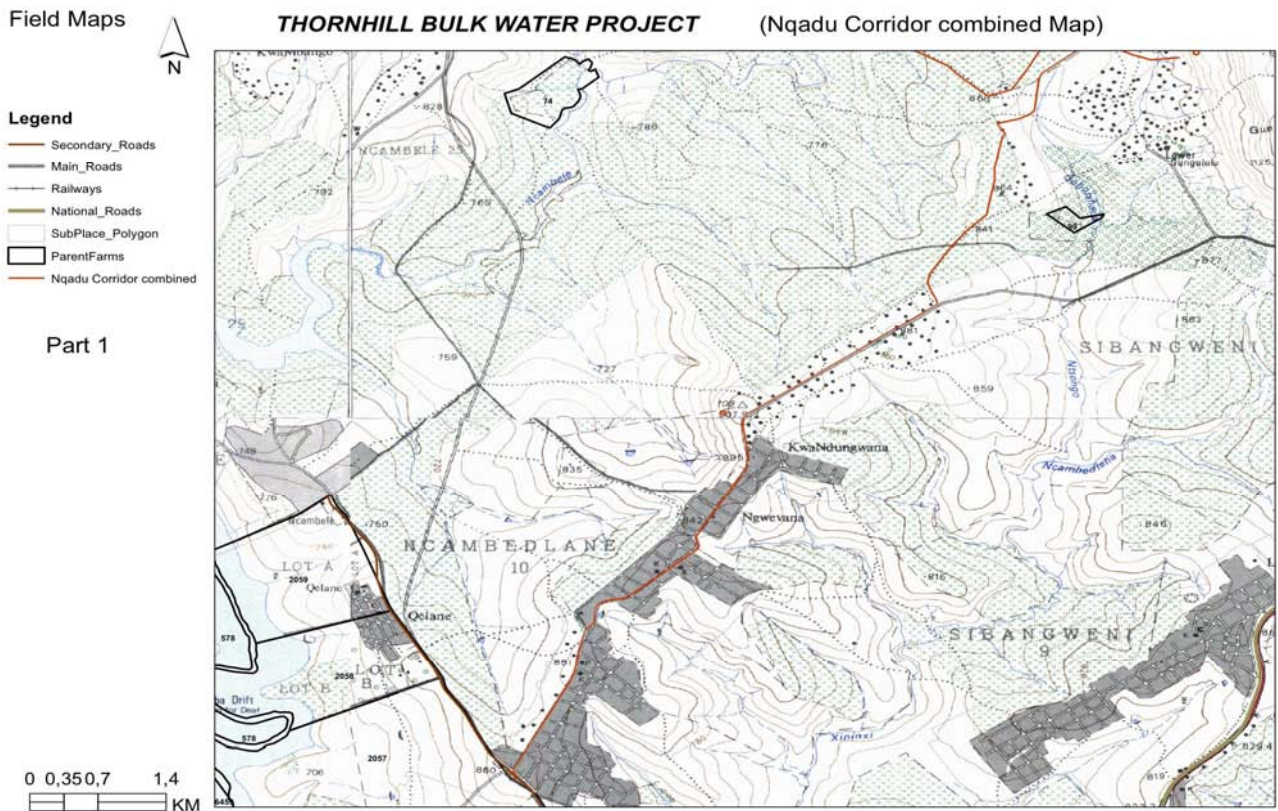
5. RESULTS OF THE ARCHAEOLOGICAL/HERITAGE ASSESSMENT STUDY

5.1. Description of Project Area

5.1.1. The Nqadu Corridor (Mavete-Gungululu node)

The study covered the proposed Nqadu bulk water pipeline servitude and the storage and pressure tank sites, which are located along the Nqadu corridor in the OR Tambo Municipality in Eastern Cape Province. Nqadu Corridor has two nodes namely the Mavete -Lower Gungululu node and the Lower Gungululu-Nqadu node. The Mavete-Lower Gungululu pipeline route will T-Off from the Qelane pipeline servitude at Mavete Village and will run along the narrow lower Gungululu road servitude. The proposed Mavete- Lower Gungululu pipeline servitude is very narrow and confined along built up areas dotted with burial sites along both sides of the road servitude. The Mavete-Lower Gungululu node will cut through Zukezweni, Zinkumbilni, Manaleni, Ngwevana, Soyini, Mpekela and Tsongeni Villages. The pipeline route will terminate at Lower Gungululu Village.

Figure 3: Topographic showing the Mavete-Lower Gungululu node



5.1.2. The Nqadu Corridor (Lower Gungululu-Nqadu node)

The Lower Gungululu-Nqadu node will T-off from lower Gungululu reservoir and will run to the west towards Nqadu settlement. The proposed pipeline route will to a large extent cut through old agriculture fields and grazing land. The pipeline route will cross

the Qolombane and Ncambele River. The Lower Gungululu- Nqadu pipeline route will cut through Mrhotshozweni and Zenzele villages in the Qolombane area and will terminate at Nqadu settlement near Nqadu forest reserve (Plates 1-4 and Table 1).

Figure 4: Topographic map showing the Lower Gungululu-Nqadu node

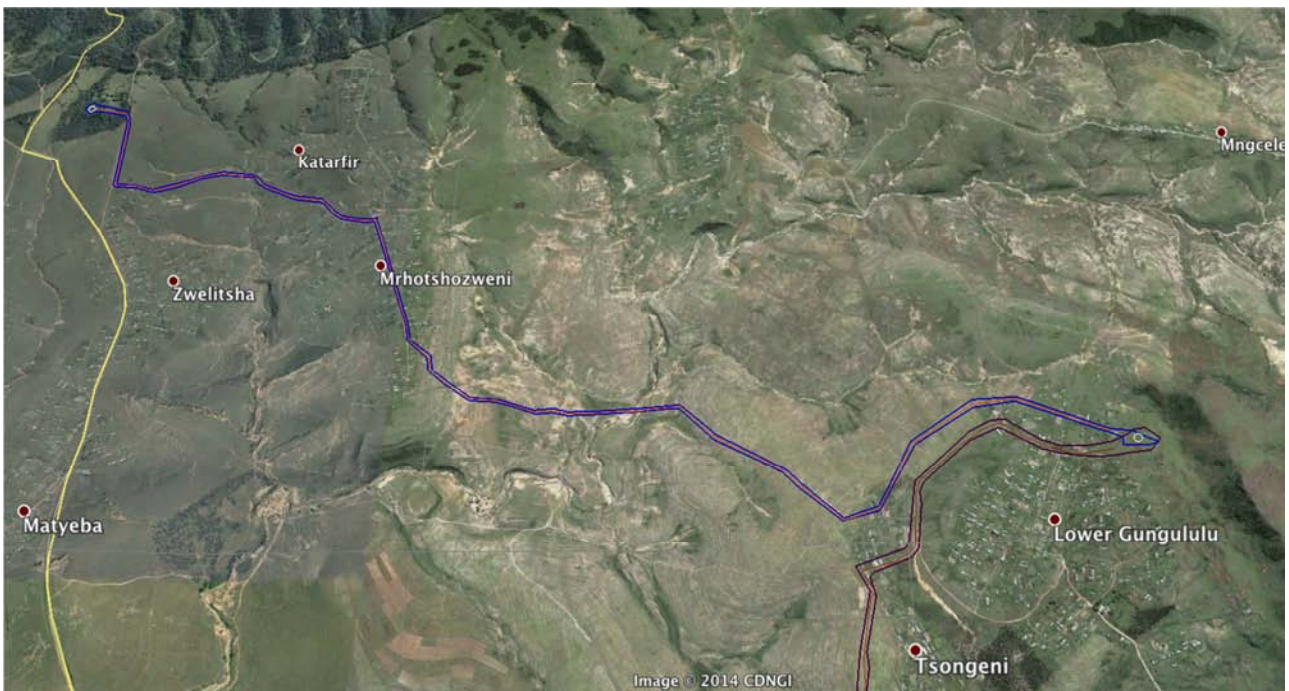
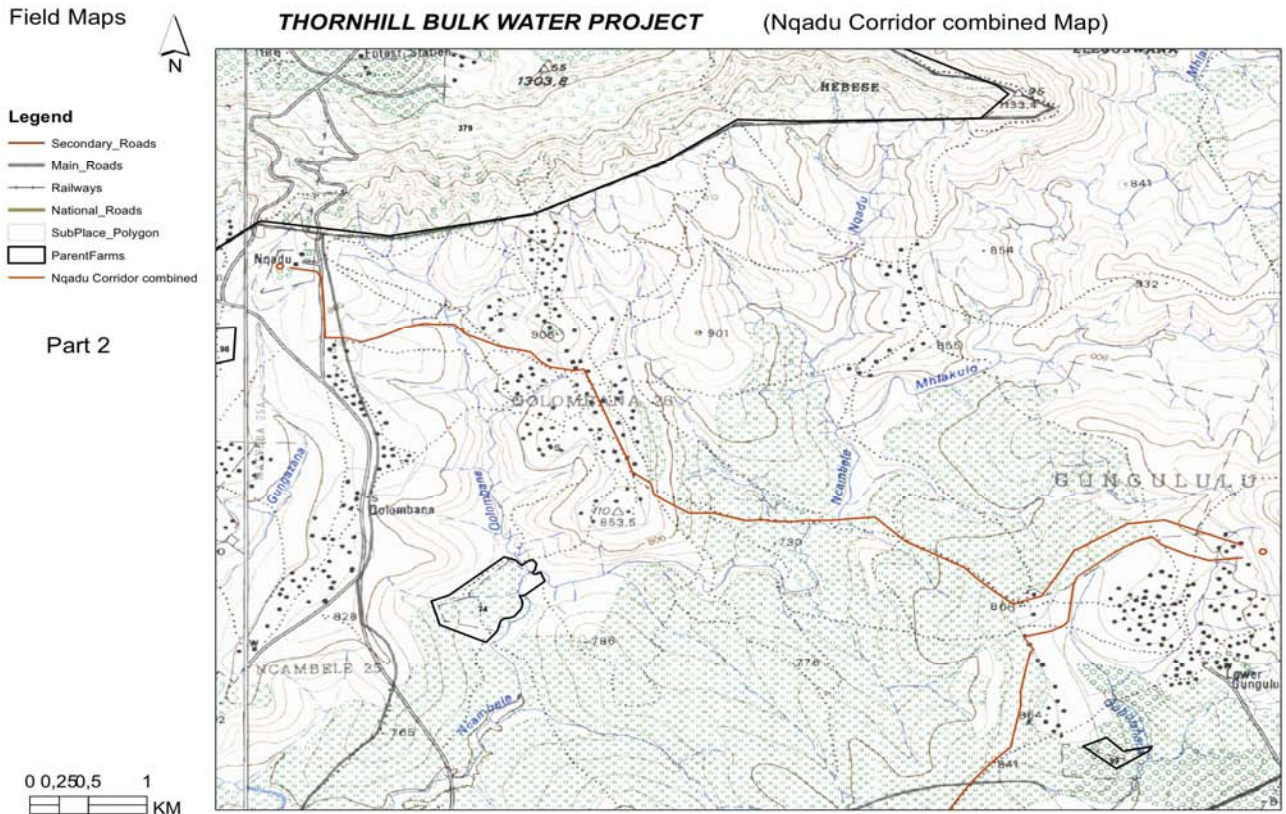


Table 1: Coordinates of selected localities along the Nqadu Corridor pipeline servitude.

Site	Coordinates	Description and Location	Significance and Recommendations
Nqadu Corridor T off position	E028°45'53.1" S31°32'10.6"	Located at the Qelane and Lower Gungululu Road junction at Mavete Village	No heritage site recorded
Burial site 1	E028°45'58.4" S31° 32'02.1"	Two burials located at Ncambedlane (Mavete Village) near the T-off position along the Mavete -Lower Gungululu. Pipeline servitude). The site is located about 25m from road servitude.	High significance. The site must be avoided during finally pipeline lay out plan.
Burial site 2 and abandoned homestead	E028°46'40.5" S31°30'59.6"	A solitary grave within a churchyard. The burial is located 20m from the Nqadu (Mavete-Lower Gungululu pipeline servitude)	High significance must be avoided. The final layout plan must carefully be designed to avoid the burial site.
Burial Site 3	E028°46'57.7" S31°30' 51.1"	Two burials opposite each other, located about 20m from road servitude along the Nqadu (Mavete-Lower Gungululu node at Ngwevane Village.	Highly significance and must be preserved in situ
Burial site 4	E028°46'51. 7" S31°30'51. 2"	The burial site is located about 20m from road servitude along the proposed Nqadu (Mavete-Lower Gungululu pipeline servitude) on the right towards Lower Gungululu.	The burial site is highly significant. Although the servitude is narrow the final layout plan must avoid the burial by sticking to the left.
Burial site 5	E028°46'53. 5" S31°30' 49. 6"	Three graves located 11m from the road servitude along the Nqadu (Mavete-Lower Gungululu servitude). The site is located at KwaNdungwana Village.	The burial site is of high significance. The pipeline must stick to the right.
Burial site 6	E028°47'05. 1" S31°30'27. 6"	A solitary grave located 11m from the proposed Nqadu (Mavete-Lower Gungululu pipeline servitude) at KwaNdungwana settlement. There are two graves located about 50m from the burial site no.6. Its also associated with an abandoned homestead	The burial site is of high significance. The burial must be avoided by placing the pipeline servitude on the right side of the road.
Burial site 7	E028°47'14.2" S31°29'57.5"	A solitary burial along the Nqadu (Mavete-Lower Gungululu pipeline servitude. The burial site is located 10m from the road servitude	Highly significant. The site must be avoided.
Burial site 8	E028°47'19.8" S31° 29'54.0"	Four burials under a big tree about 35m from the proposed Nqadu (Mavete-Lower Gungululu pipeline servitude.	Highly significant. The site must be protected in situ.
Burial site 9	E028°47'22.9" S31°29'52.2"	A solitary grave 30m from road servitude on the right along the	Highly significant. The burial site must be preserved in situ

Site	Coordinates	Description and Location	Significance and Recommendations
		Nqadu (Mavete-Lower Gungululu pipeline servitude)	
Burial Site 10	E028°47'26.2" S31°29'49.9"	A solitary burial located 15m from proposed Nqadu (Mavete-Lower Gungululu pipeline servitude near burial site 9	Highly significant. The burial site must be avoided
Burial site 11	E028°47'38. 8" S31°29'42. 1"	Three burials recorded 18m from proposed Nqadu (Mavete-Lower Gungululu pipeline servitude on the right	Highly significant, must be avoided.
Burial site 12	E028°47'42. 1" S31°29 40. 7"	A solitary grave 20m from the proposed Nqadu (Mavete-Lower Gungululu pipeline servitude) on the right at Impindweni Village. There is also an abandoned homestead near the burial site (Check Pole no. GXIDID JS on the right for reference..	The burial site is highly significant; it must be preserved in situ.
Burial site 13	E028°48'03. 0" S31°29'26. 8"	Two family burial sites opposite each other located about 11m from proposed Nqadu (Mavete-Lower Gungululu pipeline servitude. The site is located at Impindweni Village	The burial sites are highly significant and must be preserved in situ. The pipeline route must stick to the right to avoid the burial sites.
Burial site 14	E028°48'35. 9" S31°28'36. 7"	A formal village cemetery located in the outskirts of Lower Gungululu Village. The burial site is clearly marked and well maintained. The site is significantly off the impact zone of the proposed pipeline development	The site is highly significant. The site must be avoided by directing the pipeline route to the left.
Burial site 14b	E028°48'36. 3" S31°28'39. 0"	A solitary burial site located at Lower Gungululu Village	The site is highly significant. The site must be avoided.
Burial site 15 and stone structure	E028°48'42. 1" S31°26 48. 6"	A large grave located in the vicinity of an archaeological circular stone structure. The site is located 40m from the road servitude and more than 100m from the Nqadu (Lower Gungululu-Nqadu pipeline servitude. The burial site is larger than ordinary graves but it has one headstone. It resembles a mass grave. We could not establish the reason for its unusual size. The circular stone structure is about 50m in diameter and marked by big boulders. The site is located more than 100m from the proposed pipeline servitude	The sites are highly significant and must not be tempered with during construction. Construction workers must be informed about the significance of archaeological sites

Site	Coordinates	Description and Location	Significance and Recommendations
Burial site 16	E028°46'30. 1" S31°26'46. 8"	A burial site near the terminal position along the Nqadu (Lower Gungululu-Nqadu pipeline servitude at Nqadu Village about 10m from the road servitude	The burial site is highly significant and must be preserved in situ.
Burial site 17	E028°46'30. 6" S31°26'48. 11"	Burial site with two graves located 20m from village street servitude opposite the historic church along the Nqadu (Lower Gungululu pipeline servitude)	The burial site is highly significant. The site must be protected in situ.
Historical Church	E028°46'30. 1" S31°26'47. 6"	Historical Church at Nqadu Village near terminal position. The site is a heritage site which is protected by NHRA	The site is of medium to high significance. The site must not be interfered with during construction.



Plate 1: **Photo 1 and 2 shows position where the proposed Nqadu pipeline servitude will T-off from the Hillcrest-Qelane pipeline (Left) and burial site along the Nqadu (Lower Gungululu pipeline servitude (Author 2013).**



Plate 2: **Photo 3 (left) and 4 (right) shows burial sites located within fenced homesteads along the narrow Nqadu (Mavete- Lower Gungululu section) (Author 2013).**



Plate 3: Photo 5 (left) and 6 (right) shows boundary fence line, road servitude, powerline servitude and burial sites on both sides of the proposed Mavete-Lower Gungululu node of the proposed Nqadu pipeline corridor.



Plate 4: Photo 7 and 8 shows some of the built up areas along the Nqadu (Mavete-Lower Gungululu) bulk water supply pipeline route (Author 2013).



Plate 5: Photo 9 and 10 shows some of the built up areas along the Nqadu (Mavete-Lower Gungululu bulk water pipeline route) and a burial site barely 10m from the proposed Nqadu (Mavete-Lower Gungululu) pipeline servitude (Author 2013).



Plate 6: Photo 11 and 12 shows some burial sites within fenced fields along Nqadu (Mavete-Lower Gungululu node) (Author 2013).



Plate 7: Photo 13 and 14 Shows burial sites located within fenced homesteads along the Mavete Lower Gungululu node (Author 2013).



Plate 8: Photo 15 and 16 shows two burial sites on the edge of the proposed Nqadu (Mavete-Lower Gungululu) pipeline route (Author 2013).



Plate 9: **Photo 17 and 18 View of two burial sites barely 11m from the proposed Nqadu (Lower Gungululu) pipeline route and an open section along the proposed Lower Gungululu pipeline route towards Lower Gungululu Village (Author 2013).**



Plate 10: **Photo 19 and 20 shows a formal village cemetery in the vicinity of the proposed Nqadu (Lower Gungululu pipeline route) and abandoned agriculture fields along the proposed pipeline route (Author 2013).**



Plate 11: **Photo 20 and 21 Shows a solitary grave in the vicinity of the proposed Nqadu (Lower Gungululu-Nqadu) pipeline route and a circular stone structure recorded more than 100m from the proposed pipeline servitude (Author 2013).**



Plate 12: **Photo 22 and 23 shows an unusually large grave recorded in association with a circular stone structure and remains of a circular enclosure located more than 100m from the proposed Nqadu (Lower Gungululu-Nqadu) pipeline route (Author 2013).**



Plate 13: **Photo 24 and 25 shows an eagle's eye view of the recorded stone structure and the general landscape along the Nqadu (Lower Gungululu-Nqadu) pipeline route (Author 2013).**



Plate 14: **Photo 26 shows a village burial site in the outskirts of Nqadu Village (Author 2013). Note that eroded sections of the proposed pipeline route were inspected for possible archaeological remains exposed by erosion.**



Plate 15: **Photo 27:** shows a historical church building near the terminal position of the proposed Nqadu (Lower Gungululu-Nqadu Node) pipeline route at Nqadu Village (Author 2013).



Plate 16: **Photo 28:** shows proposed Nqadu (Lower Gungululu-Nqadu) pipeline route in relation to the historical church building (Author 2013). Note that the church building qualifies for automatic protection by NHRA by virtue of its relative Age obtained from the inscription on the church bell (see photo 27).



Plate 17: **Photo 29: shows remains of abandoned historic structure in the vicinity of the proposed terminal position for the Nqadu corridor.**

5.2. Archaeological finds

A circular stone structure with a diameter of about 60m and 40cm high was recorded between Lower Gungululu Village and Nqadu. However, the site is located more than 200m off the proposed pipeline servitude as such unlikely to be impacted by the proposed powerline development. However, the site is an indication of the potential to yield historical archaeological sites in the project area.

There is also a large grave in the vicinity of the stone walled structure. It is not clear if the two sites are contemporaries because the burial site has been recently plastered. The burial site qualifies for automatic protection by NHRA. Although the site is located far from the impact zone of the proposed pipeline development the entire landscape has potential to yield similar archaeological or historical archaeological sites concealed by thick grass cover.

Although some sections of the site earmarked for the bulk water supply development are heavily degraded from previous and current agricultural land use and from powerline, main road developments and residential developments, the Nqadu-Lower Gungululu section has low to medium potential to yield archaeological resources and probably previously unidentified burial grounds.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Mitigation

None required. However, in the unlikely event that chance archaeological materials are disturbed at any of the tower position, salvage and chance finds procedures should be implemented. Monitoring of construction activities between by an archaeologist. Should significant chance archaeological finds be discovered in the process of construction on this servitude portion, the materials should be documented and necessary salvage measures implemented by the monitoring archaeologist.

5.3. Historical and Built Environment

In general, historic sites are associated with colonial era white settlers, colonial wars, industrialization; recent and contemporary African population settlements, contemporary ritual sites dating to the last hundred years. However, recent historic period sites and features associated with the, African communities, settler and commercial farming communities are on record in the general project area environment.

The survey recorded remains of abandoned historic and contemporary homesteads along the proposed Nqadu pipeline route. Abandoned historic structures over 60 years old are automatically protected by the National Heritage Resources Act 25 Of 1999. They should not be destroyed without the relevant permit from Eastern Cape Provincial Heritage Resources Agency. During this study no confirmable classified or significant historic sites that warrants mitigation or intervention were recorded.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Mitigation

None required. However, in the unlikely event that chance historic archaeological materials will be disturbed along the servitude, salvage and change finds procedures should be implemented.

5.4. Burial grounds and graves

The field survey for Nqadu Corridor also revealed that several historic and contemporary graves occur within homesteads lined along the access road from Mavete to Lower Gungululu within the Nqadu Corridor. The study recorded seventeen (17) burial sites at varying distances from the proposed Mavete-Lower Gungululu node. The burial sites were recorded between 10m to 60m from the proposed pipeline servitude, which makes them fall within the pipeline impact zone (see table of findings).

Whether burial sites are known or not on record, from a heritage perspective, burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist they may not be tempered with or interfered with during any proposed development.

It is important to note that the possibility of encountering previously unknown human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low on the Nqadu bulk water supply pipeline route, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes for more details).

Impact	Impact Significance	Heritage Significance	Certainty	Duration
Disturbance of Burial grounds and Grave Sites	Medium to High	High	Probable	Permanent

Mitigation

The Mavete-Lower Gungululu Node of the proposed Nqadu Pipeline development will traverse through densely built up village settlements. There are more than 17 burial grounds and graves sites recorded in the vicinity of the pipeline servitude. As such, all earthworks along this node should be monitored by a Heritage Officer. Furthermore, careful planning is required for all construction activities along this node to ensure that the subsurface works are limited to approved servitude to minimise the probability of encountering previously unrecorded burial sites. In the likely event that chance historic archaeological materials will be disturbed along the servitude, salvage and change finds procedures should be implemented.

5.5. Historical Monuments

There are currently no places within the Nqadu corridor that are listed on the National Heritage List. However, there are several local private buildings, such as churches, that may not be interfered during the proposed development on account of them being more than 60 years old. Nonetheless, the proposed development will be an add development that takes into consideration already existing developments.

5.6. Cultural landscapes

The project area has established rural and peri-urban settlements associated with the Ncambedlane Village and the surrounding villages such as Qolombane and Gungululu villages, and Nqadu. However, none of these built up areas are affected in any significant heritage value by the proposed pipeline development. The bulk water supply infrastructure will add to several modern built-up areas within the general cultural landscape around Nqadu and the landscape in general.

5.7. Scenic Routes, Sense of Place and Visual Concerns

The site can be accessed from Mthatha Town via the N2 and Nqadu Road. The study area is visible from the regional and local main roads and it is an altered environment dominated by built up areas and a newly established residential area within the

broader Ncambedlane, Qolombane and Lower Gungululu area. This represents a pre-existing visual detractor from the sense of place and scenic value from the road. However, it should be borne in mind that the proposed development is an in situ development adding to existing developments within the area. Therefore any possible visual impacts to the project area is less significant and would be of reduced concern given the observation that this concern is already overridden by existing impact.

6. DISCUSSION

Although a solitary archaeological site was recorded far from the impact zone of the Nqadu pipeline servitude (Lower Gungululu-Nqadu section) there is potential for encountering archaeological traces between Lower Gungululu and Nqadu Village. The stretch between Mavete and Lower Gungululu Village requires careful planning to avoid interfering with graves recorded within the impact zone of the proposed pipeline development. The following observations are worthy emphasizing in this discussion prior to making final recommendations:

- Limited ground surface visibility on sections of the project area that had thick vegetation cover at the time of the study may have impeded the detection of archaeological sites. This factor is exacerbated by the fact that the study was limited to general survey without necessarily conducting any detailed inspection of specific localities that will be affected by the proposed pipeline development. The absence of confirmable and significant archaeological cultural heritage sites is not evidence in itself that such in situ sites did not exist in the project area.

7. CULTURAL HERITAGE SITE ASSESSMENT OF SIGNIFICANCE

The appropriate management of cultural heritage resources is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific or social value for past, present and future generations (Article 1.2). Social, religious, cultural and public significance are currently identified

as baseline elements of this assessment, and it is through the combination of these elements that the overall cultural heritage values of the site of interest, associated place or area are resolved. Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken and community values change.

The above observation does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest as its environments of the study area is based on the views expressed by the Claimant and his community representatives consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with particular resonance to the indigenous community. The site of interest considered in this project falls within this realm of broad significance.

7.1. Assessment Criteria

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

7.1.1. Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, *HIA-THORNHILL BULK WATER SUPPLY PROJECT IN OR TAMBO LOCAL MUNICIPALITY OF EASTERN CAPE PROVINCE, 2013- 45 -*

texture and material of the fabric; sense of place, the smells and sounds associated with the place and its use.

7.1.2. Historic Value

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. The overall Eastern Cape Province region as a place has historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

7.1.3. Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information. Scientific value is also enshrined in natural resources that have significant social value. For example, pockets of forests and bushvelds have high ethnobotany value.

7.1.4. Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national or other cultural sentiment to a majority or minority group. Social value also extend to natural resources such as bushes, trees and herbs that are collected and harvested from nature for herbal and medicinal purposes.

7.2. Evaluation of Heritage Resource

Based on the information from the national South African Heritage Resources Agency standards of best practice and minimum standards, data capture forms were used to collect information from the field through site condition surveys and observations.

(Table 5) After the data was gathered from the field was combined with information from other sources it was deemed essential to establish the value and significance of individual sites as well as to identify any threats to the heritage. The South African National Heritage Resources Act 25 of 1999 grading scale was used to assess significance.

Table 2: Significance assessment of heritage resources based on ICOMOS and NHRA criteria.

ICOMOS Ranking	South African Legislation (National Heritage Resources Act Ranking)
<ul style="list-style-type: none"> • Very high (World Heritage Sites) 	National Heritage Sites (Grade 1)
<ul style="list-style-type: none"> • High (Nationally significant sites) 	National Heritage Sites (Grade 1), Grade 2 (Provincial Heritage Sites), burials
<ul style="list-style-type: none"> • Medium (regionally significant sites) 	Grade 3a
<ul style="list-style-type: none"> • Low (locally significant sites) 	Grade 3b
<ul style="list-style-type: none"> • Negligible 	Grade 3c
<ul style="list-style-type: none"> • Unknown 	Grade 3a

8. STATEMENT OF SIGNIFICANCE

8.1. Aesthetic Value

The aesthetic values of the HIA Study Area (proposed Nqadu pipeline overall project area) are contained in the valley bushvelds environment and landscape typical of this part of the Eastern Cape Province. The visual and physical relationship between HIA study area and the surrounding cultural Landscape demonstrates the connection of place to the local and oral historical stories of the African communities who populated this region going back into prehistory.

The proposed pipeline will be situated within a degraded secondary environment and associated contemporary cultural landscape. The area is developed by existing

settlements, remains representative of the original historical environment and cultural landscape of this part of Eastern Cape Region. The local communities consider the project area a cultural landscape linked to their ancestors and history. However, the proposed developments will not alter this aesthetic value in any radical way since it will add to the constantly changing and developing settlements (Table below).

Table 3: Assessment of impacts to Aesthetic Values related to the scenic routes and sense of place

	Before Mitigation	After Mitigation
Magnitude	Low	NA
Extent Local -	Local	NA
Duration Long term -	Long term	NA
Significance	Low -	NA
Probability	Definite -	NA
Status	Negative -	NA
Reversible	Yes (with rehabilitation after plant is decommissioned)	NA
Cumulative	A number of residential and agricultural facilities planned for the area that may lead to cumulative visual impacts to the landscape if they were to be constructed. This maybe of concern and will detract from peoples' experience of the general regional sense of place.	

8.2. Historic Value

There are no such historic relics on the site affected with development; however, such history goes back to the pre-colonial period, through the colonial era, the colonial wars and subsequent colonial rule up to modern day Eastern Cape Province.

Table 4: Assessment of impacts to Historic Values related to the project area.

	Before Mitigation	After Mitigation
Magnitude	Low	Low
Extent Local -	Specific Site	Specific Site
Duration Long term -	Long term	Long term
Significance	Low -	Low -
Probability	Definite -	Probable
Status	Negative -	Negative -
Reversible	Yes (with rehabilitation after plant is decommissioned)	No
Cumulative	No historic or historic archaeology sites will be affected by this development. However, there are similar developments if the region that may be affected highly significant sites, which will lead to permanent loss of physical cultural property record of the region.	

8.3. Scientific value

Past settlements and associated roads, and other auxiliary infrastructure developments and disturbance within the HIA study area associated with the proposed pipeline development have resulted in limited intact significant cultural landscapes with the potential to retain intact large scale or highly significant open archaeological site deposits. However, should intact archaeological sites be recorded along the pipeline servitude and immediate surrounding areas, they may retain scientific evidence that may add value to the local and regional history.

Table 5: Assessment of impacts to Archaeological Scientific Values related to the project area.

	Before Mitigation	After Mitigation
Magnitude	Low	NA
Extent Local -	Specific Site	NA
Duration Long term -	Long term	NA
Significance	Low -	NA
Probability	Definite -	NA
Status	Negative -	NA
Reversible	Yes (with rehabilitation after plant is decommissioned)	NA
Cumulative	The archaeological resources falling within the project area are not significant since they do not constitute distinct sites. Since no significant pre-colonial resources occur, cumulative impacts are thus not of concern on this site. There are other significant archaeological sites in the region that may be protected for archaeological and scientific reasons.	

8.4. Social Value

The project servitude and sites fall within a larger and an extensive Eastern Cape cultural landscape. The overall area has social value for the local community, as is the case with any populated landscape. The land provides the canvas upon which daily socio-cultural activities are painted. The circular stone structure, which was recorded near the project area, testify to the fact of generational homes and settlements. All these factors put together confirm the social significance of the project area. However, this social significance is not going to be negatively impacted by the proposed pipeline development especially given the fact that the

development will add value to the human settlements and activities already taking place. In addition the area is already affected by infrastructure developments and this project is an addition to already existing infrastructure such as roads, and agricultural fields and residential developments.

Considerable section of the Lower Gungululu-Nqadu node is covered in thick grass. Vegetation retains social value as sources of important herbs and traditional medicines as such, they must be considered as medium significant social value sites.

9. RECOMMENDATIONS

1. The Nqadu corridor (Mavete-Lower Gungululu node) is very narrow and dotted with burial sites on both sides of the narrow corridor. Although the pipeline route is feasible it requires careful planning to avoid all the identified burial sites along the corridor. The proposed Nqadu (Mavete-Lower Gungululu) pipeline development should be approved to proceed as planned under observation that construction work does not extend beyond the pipeline route. The foot print impact of the proposed pipeline development and associated infrastructure should be kept to minimal to limit the possibility of interfering with the recorded burial sites.
2. When the removal of topsoil and subsoil on the site earmarked for the pipeline development commences, the site should be monitored by a professional archaeologist for subsurface archaeological materials.
3. Should chance archaeological materials or human burials remains be exposed during subsurface construction work on any section of the bulk water supply pipeline servitude, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the PHRA and NHRA regulations.
4. Based on the findings revealed in the literature review, a professional archaeologist should be retained to monitor all significant earth moving

activities that may be implemented as part of the proposed Nqadu bulk water supply pipeline servitude.

5. The construction monitoring process would ensure that should any archaeological or human remains be disturbed during subsurface construction work at the Sites of Interest, immediate remedial rescue and salvage work would be actioned without delay.
6. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed bulk water supply development in the Eastern Cape Province. The Heritage authority may approve the proposed development to proceed as planned with special commendations to implement the recommendations here in made.

9.1. Management & Policy Recommendations

9.1.1. Community Advisory

Should community consultations being held through the project EIA PPP refer to any cultural issues associated with the project area, such matters should be addressed adequately. The proposed bulk water supply project is associated with existing farming communities in the landscape and their heritage or cultural aspirations that may potentially be affected by the development should be acknowledged in the event that they are identified during the course of the implementation of the proposed development. To date, the PPP consultation process has not identified cultural heritage contestation to the project.

Recommendation

The Project Public Participation Process should ensure that any cultural heritage related matter for this project is given due attention whenever it arises and is communicated to PHRA throughout the proposed project development. This form of extended community involvement would pre-empt any potential disruptions that may arise from previously unknown cultural heritage matter that may have escaped the attention of this study.

9.1.2. Interpretation & Active Management Recommendations

The local communities have a long and significant connection with project area. Like any other generational society, there are several other cultural activities that take place within the affected settlement areas associated with the proposed Nqadu bulk water supply route.

Recommendation

Although the possibility of conflict between the community and the proposed development related to cultural heritage is unlikely, PHRA should acknowledge on behalf of the community, that the project area is situated in a culturally significant landscape associated with local history and cultural activities. PHRA may also acknowledge that such significance is not tied to physical sites or archaeological sites only, but to intangible heritage such as popular memories, oral history, ancestral remembrance, religious rituals, aesthetic appreciations, living experiences and folklores. As such, the community retains the right to have their constitutionally guaranteed cultural heritage rights respected and protected without being limited to existence of physical evidence such as archaeological sites. Should such issues arise in association with this proposed development have to be adequately addressed by PHRA and community.

10. CONSTRUCTION HERITAGE MANAGEMENT PLAN

The heritage management principles in Table below apply during construction and operational phases of the pipeline project.

Table 6: Construction Heritage Management Plan.

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Objective		<ul style="list-style-type: none"> Protection of chance archaeological sites and land considered to be of cultural value; Protection of chance physical cultural property sites against vandalism, destruction and theft; and The preservation and appropriate management of new archaeological finds should these be discovered during construction. 						
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase – Phase 1 HIA Study of Alternative routes & Walk-down Survey of Final Approved Route								

No	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas. No known or protected sites were recorded in the HIA and AIA studies	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Construction Phase								
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be		Throughout	C CECO	SM	ECO	EA EM PM

No	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
		exposed during excavation or be found on development site, a registered heritage specialist or EC PHRA official must be called to site for inspection.						
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who		When necessary	C CECO	SM	ECO	EA EM PM

No	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
		in turn will inform EC PHRA						
		Should any remains be found on site that is potentially human remains, the EC PHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						

Table 7: Roles and responsibilities of archaeological and heritage management.

ROLE	RESPONSIBILITY	IMPLEMENTATION
A responsible specialist needs to be allocated and should sit in at all relevant meetings, especially when changes in design are discussed, and liaise with EC PHRA.	The client	Archaeologist and a competent archaeology supportive team
If chance finds and/or graves or burial grounds are identified during construction or operational phases, a specialist must be contacted in due course for evaluation.	The client	Archaeologist and a competent archaeology supportive team
Comply with defined national and local cultural heritage regulations on management plans for identified sites.	The client	Environmental Consultancy and the Archaeologist
Consult the managers, local communities and other key stakeholders on mitigation of archaeological sites.	The client	Environmental Consultancy and the Archaeologist
Implement additional programs, as appropriate, to promote the safeguarding of our cultural heritage. (i.e. integrate the archaeological components into employee induction course).	The client	Environmental Consultancy and the Archaeologist,

ROLE	RESPONSIBILITY	IMPLEMENTATION
If required, conservation or relocation of burial grounds and/or graves according to the applicable regulations and legislation.	The client	Archaeologist, and/or competent authority for relocation services
Ensure that recommendations made in the Heritage Report are adhered to.	The client	The client
Provision of services and activities related to the management and monitoring of significant archaeological sites.	The client	Environmental Consultancy and the Archaeologist
After the specialist/archaeologist has been appointed, comprehensive feedback reports should be submitted to relevant authorities during each phase of development.	Client and Archaeologist	Archaeologist

11. IMPACT MANAGEMENT

11.1. Pre-construction phase

Based on the findings of the AIA & HIA, all stakeholders and key personnel should undergo an archaeological induction course during this phase. Induction courses generally form part of the employees' overall training and the archaeological component can easily be integrated into these training sessions aimed more at managers and supervisors, highlighting the value of this exercise and the appropriate communication channels that should be followed after chance finds, and the second targeting the actual workers and getting them to recognize artefacts, features and significant sites. This needs to be supervised by a qualified archaeologist. This course should be reinforced by posters reminding operators of the possibility of finding archaeological sites.

11.2. Construction phase

The project will encompass a range of activities during the construction phase, including ground clearance, establishment of construction camps area and small scale infrastructure development associated with the project.

It is possible that cultural material will be exposed during operations and may be recoverable, but this is the high-cost front of the operation, and so any delays should be minimised. Development surrounding infrastructure and construction of facilities results in significant disturbance, but construction trenches do offer a window into the past and it thus may be possible to rescue some of the data and materials. It is also possible that substantial alterations will be implemented during this phase of the project and these must be catered for. Temporary infrastructure is often changed or added to the subsequent history of the project. In general these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.

During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken. A responsible archaeologist may be appointed for this commission. The archaeologist would inspect the site and any development recurrently, with more frequent visits to the actual workface and operational areas. In addition, feedback reports can be submitted by the archaeologist to the client and EC PHRA to ensure effective monitoring. This archaeological monitoring and feedback strategy should be incorporated into the Environmental Management Plan (EMP) of the project. Should an archaeological site or cultural material be discovered during construction (or operation), such as burials or grave sites, the project needs to be able to call on a qualified expert to make a decision on what is required and if it is necessary to carry out emergency recovery. EC PRAHA would need to be informed and may give advice on procedure. The developers therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the material and data are recovered. The project thus needs to have an archaeologist available to do such work.

The purpose of an archaeological monitoring programme is to provide general information to the developer with regards to management recommendations and cost estimates for the chance archaeological component, a specialist sub-section of the Environmental Impact Assessment (EIA) process, for the project.

Such a monitoring programme is planned for observation and investigation during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land where there is a possibility that archaeological deposits may be disturbed or destroyed. Its main purpose is:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works;
- To provide an opportunity, if needed, for the monitoring archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the monitoring programme itself are not sufficient to support treatment to a satisfactory and proper standard; and
- A monitoring programme is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.

In essence, the objective of a monitoring programme is to establish and make available information about the archaeological resource existing on a site.

12. CONCLUDING REMARKS

The literature review, field research and subsequent impact assessment confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements that have long local history. Field survey was conducted during which it was established that the affected pipeline route is degraded by existing and previous land use activities and developments. Although the area is degraded, the archeological remains recorded near the Site of Interest is part of a wider cultural landscape as confirmed by existence of isolated stone structure. Although historical and contemporary cultural sites exist in the neighboring farmlands, none were recorded on the direct path of the proposed developments or within the project area that retained any significance that may be affected by implementation of the proposed bulk water supply development. This report concludes that the proposed

bulk water supply project may be approved by Heritage Authority to proceed as planned subject to conditional inclusion of heritage monitoring measures in the project EMP (also see Appendices) and chance finds procedures for the construction phase.

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14. APPENDIX 1: HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT

BY Murimbika M. [2011]

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Developers, land use planners and professional specialist service providers often encounter difficult situations with regards to burial grounds, cemeteries and graves that may be encountered in development contexts. This may be before or during a development project. There are different procedures that need to be followed when a development is considered on an area that will impact upon or destroy existing burial grounds, cemeteries or individual graves. In contexts where human remains are accidentally found during development work such as road construction or building construction, there are different sets of intervention regulations that should be instigated. This brief is an attempt to highlight the relevant regulations with emphasis on procedures to be followed when burial grounds, cemeteries and graves are found in development planning and development work contexts. The applicable regulations operate within the national heritage and local

government legislations and ordinances passed in this regard. These guidelines assist you to follow the legal pathway.

1. First, establish the context of the burial:

A. Are the remains less than 60 years old? If so, they may be subject to provisions of the Human Tissue Act, Cemeteries Ordinance(s) and to local, regional, or municipal regulations, which vary from place to place. The finding of such remains must be reported to the police but are not automatically protected by the National Heritage Resources Act (Act 25 of 1999).

B. Is this the grave of a victim of conflict? If so, it is protected by the National Heritage Resources Act (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below).

C. Is it a grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority? If so, it is protected by the National Heritage Resources Act (Section 36(3b)).

D. Are the human or hominid remains older than 100 years? If so, they are

protected by the National Heritage Resources Act (Section 35(4), see also definition of “archaeological” in Section 2).

2. Second, refer to the terms of the National Heritage Resources Act most appropriate to the situation, or to other Acts and Ordinances:

A. Human remains that are NOT protected in terms of the National Heritage Resources Act (i.e. less than 60 years old and not a grave of a victim of conflict or of cultural significance) are subject to provisions of the Human Tissue Act and to local and regional regulations, for example Cemeteries Ordinances applicable in different Provincial and local Authorities.

B). All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.

C). If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983). In contexts where the local traditional

authorities given their consent to the unknown remains to be re-buried in their area, such re-interment may be conducted under the same regulations as would apply for known human remains.

3. In the event that a graveyard is to be moved or developed for another purpose, it is incumbent on the local authority to publish a list of the names of all the persons buried in the graveyard if there are gravestones or simply a notification that graves in the relevant graveyard are to be disturbed. Such a list would have to be compiled from the names on the gravestones or from parish or other records. The published list would call on the relatives of the deceased to react within a certain period to claim the remains for re-interment. If the relatives do not react to the advertisement, the remains may be re-interred at the discretion of the local authority.

A. However, it is the responsibility of the developer to ensure that none of the affected graves within the cemetery are burials of victims of conflict. The applicant is also required in line with the heritage legislation to verify that

the graves have no social significance to the local communities.

B. It is illegal in terms of the Human Tissue Act for individuals to keep human remains, even if they have a permit, and even if the material was found on their own land.

4. The Exhumations Ordinance (Ordinance No. 12 of 1980 and as amended) is also relevant. Its purpose is "To prohibit the desecration, destruction and damaging of graves in cemeteries and receptacles containing bodies; to regulate the exhumation, disturbance, removal and re-interment of bodies, and to provide for matters incidental thereto". This ordinance is supplemented and support by local authorities regulations, municipality by-laws and ordinances.

DEFINITIONS AND APPLICABLE REGULATIONS

1). A "Cemetery" is defined as any land, whether public or private, containing one or more graves.

2). A "grave" includes "(a) any place, whether wholly or partly above or below the level of ground and whether public or private, in which a body is permanently interred or intended to be

permanently interred, whether in a coffin or other receptacle or not, and (b) any monument, tombstone, cross, inscription, rail, fence, chain, erection or other structure of whatsoever nature forming part of or appurtenant to a grave.

3). No person shall desecrate, destroy or damage any grave in a cemetery, or any coffin or urn without written approval of the Administrator.

4). No person shall exhume, disturb, remove or re-inter anybody in a cemetery, or any coffin or urn without written approval of the Administrator.

5). Application must be made for such approval in writing, together with:

a). A statement of where the body is to be re-interred.

b). Why it is to be exhumed.

c). The methods proposed for exhumation.

d). Written permission from local authorities, nearest available relatives and their religious body owning or managing the cemetery, and where all such permission cannot be obtained, the application must give reasons why not.

6). The Administrator has the power to vary any conditions and to impose additional conditions.

7). Anyone found guilty and convicted is liable for a maximum fine of R200 and maximum prison sentence of six months.

5. Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the National Heritage Resources Agency. They are administered by the Graves of Conflict Division at the SAHRA offices in Johannesburg.

“Victims of Conflict” are:

a). Those who died in this country as a result of any war or conflict but excluding those covered by the Commonwealth War Graves Act, 1992 (Act No. 8 of 1992).

b). Members of the forces of Great Britain and the former British Empire who died in active service before 4 August 1914.

c). Those who, during the Anglo Boer War (1899-1902) were removed from South Africa as prisoners and died outside South Africa, and,

d). Those people, as defined in the regulations, who died in the “liberation

struggle” both within and outside South Africa.

6. Any burial that is older than 60 years, which is outside a formal cemetery administered by a local authority, is protected in terms of Section 36(3b) of the National Heritage Resources Act. No person shall destroy damage, alter, exhume or remove from its original position, remove from its original site or export from the Republic any such grave without a permit from the SAHRA.

There are some important new considerations applicable to B & C (above).

SAHRA may, for various reasons, issue a permit to disturb a burial that is known to be a grave of conflict or older than 65 years, or to use, at a burial ground, equipment for excavation or the detection or the recovery of metals.

(Permit applications must be made on the official form Application for Permit: Burial Grounds and Graves available from SAHRA or provincial heritage resources authorities.) Before doing so, however, SAHRA must be satisfied that the applicant:

a). Has made satisfactory arrangements for the exhumation and

re- interment of the contents of such a grave at the cost of the applicant.

b). Has made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such a grave and,

c). Has reached an agreement with these communities and individuals regarding the future of such a grave or burial ground.

PROCEDURE FOR CONSULTATION

The regulations in the schedule describe the procedure of consultation regarding the burial grounds and graves. These apply to anyone who intends to apply for a permit to destroy damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is situated outside a formal cemetery administered by a local authority. The applicant must make a concerted effort to identify the descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by:

1). Archival and documentary research regarding the origin of the grave or burial ground;

2). Direct consultation with local community organizations and/or members;

3). The erection for at least 60 days of a notice at the grave or burial ground, displaying in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and

4). Advertising in the local press.

The applicant must keep records of the actions undertaken, including the names and contact details of all persons and organizations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required.

If the consultation fails to reach an agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

In the case of a burial discovered by accident, the regulations state that when a grave is discovered accidentally in the course of development or other activity:

a). SAHRA or the provincial heritage resources authority (or delegated representative) must, in co-operation with the Police, inspect the grave and decide whether it is likely to be older than 60 years or otherwise protected in terms of the Act; and whether any further graves exist in the vicinity.

b). If the grave is likely to be so protected, no activity may be resumed in the immediate vicinity of the grave, without due investigation approved by SAHRA or the provincial heritage resources authority; and

c). SAHRA or the provincial heritage resources authority may at its discretion modify these provisions in order to expedite the satisfactory resolution of the matter.

d. Archaeological material, which includes human and hominid remains

that are older than 100 years (see definition in section 2 of the Act), is protected by the National Heritage Resources Act (Section 35(4)), which states that no person may, without a permit issued by the responsible heritage resources authority - destroy, damage, excavate, alter or remove from its original site any archaeological or palaeontological material.

The implications are that anyone who has removed human remains of this description from the original site must have a permit to do so. If they do not have a permit, and if they are convicted of an offence in terms of the National Heritage Resources Act as a result, they must be liable to a maximum fine of R100 000 or five years imprisonment, or both.

TREAT HUMAN REMAINS WITH RESPECT

a). Every attempt should be made to conserve graves in situ. Graves should not be moved unless this is the only means of ensuring their conservation.

b). The removal of any grave or graveyard or the exhumation of any remains should be preceded by an historical and archaeological report and a complete recording of original

location, layout, appearance and inscriptions by means of measured drawings and photographs. The report and recording should be placed in a permanent archive.

c). Where the site is to be re-used, it is essential that all human and other remains be properly exhumed and the site left completely clear.

d). Exhumations should be done under the supervision of an archaeologist, who would assist with the identification, classification, recording and preservation of the remains.

e). No buried artifacts should be removed from any protected grave or graveyard without the prior approval of SAHRA. All artifacts should be re-buried with the remains with which they are associated. If this is not possible, proper arrangements should be made for the storage of such relics with the approval of SAHRA.

f). The remains from each grave should be placed in individual caskets or other suitable containers, permanently marked for identification.

g). The site, layout and design of the area for re-interment should take into account the history and culture associated with, and the design of, the original grave or graveyard.

h). Re-burials in mass graves and the use of common vaults are not recommended.

i). Remains from each grave should be re-buried individually and marked with the original grave markers and surrounds.

j). Grouping of graves, e.g. in families, should be retained in the new layout.

k). Material from the original grave or graveyard such as chains, kerbstones, railing and should be re-used at the new site wherever possible.

l). A plaque recording the origin of the graves should be erected at the site of re-burial.

m). Individuals or groups related to the deceased who claim the return of human remains in museums and other institutions should be assisted to obtain documentary proof of their ancestral linkages.

15. Appendix 3: heritage mitigation measure table

Site Ref	HERITAGE Aspect	POTENTIAL IMPACT	Mitigation measures	Responsible PARTY	Penalty	Method Statement required
Chance Archaeological and Burial Sites	General area where the proposed project is situated is a historic landscape, which may yield archaeological, cultural property, remains. There are possibilities of encountering unknown archaeological sites during subsurface construction work which may disturb previously unidentified chance finds.	Possible damage to previously unidentified archaeological and burial sites during construction phase. Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites. Loss of historic cultural landscape; Destruction of burial sites and associated graves Loss of aesthetic value due to construction work Loss of sense of place Loss of intangible heritage value due to change in land use	In situations where unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately. Where remedial action is warranted, minimize disruption in construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate. Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no-go zone by use of fencing during construction, and access thereto by the construction team must be denied. Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be directed by relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work.	Contractor / Project Manager Archaeologist Project EO	Fine and or imprisonment under the PHRA Act & NHRA	Monitoring measures should be issued as instruction within the project EMP. PM/EO/Archaeologists Monitor construction work on sites where such development projects commences within the farm.

16. APPENDIX 4: LEGAL BACK GROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognize the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed—

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must—

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

- (c) give further content to the fundamental rights set out in the Constitution.
- (4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.
- (5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.
- (6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
- (7) The identification, assessment and management of the heritage resources of South Africa must—
 - (a) take account of all relevant cultural values and indigenous knowledge systems;
 - (b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
 - (c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
 - (d) contribute to social and economic development;
 - (e) safeguard the options of present and future generations; and
 - (f) be fully researched, documented and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(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.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-

operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.



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