



forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

HERITAGE AND PALEONTOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION OF NEW SYSTEM 1 AT RAND WATER VEREENIGING TREATMENT WORKS, INSTALLATION OF APPROXIMATELY 7 KM PHASE 2 SLUDGE PIPELINE IN VEREENIGING, 1.5 KM SLUDGE LINE IN PANFONTEIN AND ASSOCIATED INFRASTRUCTURE WITHIN THE JURISDICTION OF SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.dffe.gov.za/documents/forms>.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with ‘*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020*’, where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Heritage Impact Assessment
Specialist Company Name	Tsimba Archaeological Footprints (Pty) Ltd
Specialist Name	Roy Muroyi
Specialist Identity Number	FN560892
Specialist Qualifications:	MA Heritage, MA CDS , Hon Archaeology
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SPECIALIST DECLARATION FORM – AUGUST 2023

2. DECLARATION BY THE SPECIALIST

I, Roy Muroyi declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
 - any decision to be taken with respect to the application by the competent authority; and
 - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.



Signature of the Specialist

Tsimba Archaeological Footprints (Pty) Ltd

Name of Company:

21 Aug 2025

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Roy Muroyi, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

Tsimba Archaeological Footprints

Name of Company

21 Aug 2025

Date



Signature of the Commissioner of Oaths

21 Aug 2025

Date

21/08/2025

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PHASE 1 ARCHAEOLOGICAL & HERITAGE IMPACT ASSESSMENT REPORT

**PROPOSED CONSTRUCTION AND
MAINTENANCE OF NEW SYSTEM 1 AT RAND
WATER VEREENIGING TREATMENT WORKS,
INSTALLATION OF APPROXIMATELY 7 KM
PHASE 2 SLUDGE PIPELINE IN VEREENIGING, 1.5
KM SLUDGE LINE IN PANFONTEIN AND
ASSOCIATED INFRASTRUCTURE WITHIN THE
JURISDICTION OF SEDIBENG DISTRICT
MUNICIPALITY, GAUTENG PROVINCE**

**SELAHLE
CONSULTANCY
AND PROJECTS
(PTY) LTD**



JULY, 2025

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ACKNOWLEDGEMENT

Tsimba Archaeological Footprints would like to acknowledge the Traditional Chiefs and Traditional leaders as the Traditional Custodians of the culture in that region. They oversee the culture, their connections to land, sea and community. We pay our respect to their Chiefs and Kings past and present and extend respect to their Traditional Chiefs of this nation and continuation of cultural, spiritual and educational practices of the people.

AUTHOR'S CREDENTIALS

A summary of their experience, qualifications, membership numbers and accreditation level

The report was authored by Mr. Roy Muroyi, **Principal Heritage Specialist and Archaeologist for Tsimba Archaeological Footprints (Pty) Ltd.** Roy has over nine years' experience in conducting and compiling **Heritage Impact Assessments**, Conservation Management Plans and Eco-Tourism Impact Assessments in South Africa, Botswana, Malawi and Australia.

The author is **Ph.D Candidate (Heritage Management)** from the University of Johannesburg – Specialising in Cultural Landscapes. Roy holds a **Masters Degree in Heritage Management** (University of Witwatersrand, 2022) with a research focus on transformational challenges at post-apartheid interpretation of Mapungubwe Interpretation Centre in Musina – Limpopo Province. He further holds another **Masters Degree in Diversity Studies** (University of Witwatersrand, 2021) focusing his research on Zulu Cultural Heritage Collections (in Kwa-Zulu Natal Province) interpretation using a decolonial lens.

Mr. Muroyi is also a holder of an **Honours Degree in Archaeology** (Midlands State University, 2014). His career in Cultural Resources Management kicked off at the **Department of National Museums and Monuments of Botswana** where he worked as an Archaeological Impact Assessment adjudicating officer in 2013.

After leaving the **Department of National Museums and Monuments of Botswana** Mr. Muroyi moved to South Africa where he got involved with several **Cultural Resources Management** consulting firms before eventually settling at **Tsimba Archaeological Footprints (Pty) Ltd.** He has so far conducted over a 1000 **Heritage Impact Assessment** reports for proposed Phase 1 and 2 **Heritage Impact Assessments** for:- Linear developments, Projects with an area over 5000m², Heritage buildings/Old buildings (demolitions and alterations), Old Bridges (demolitions) Water Pipelines, and etc .

He is accredited by **Association of Southern African Professional Archaeologists (ASAPA)** under the **Cultural Resources Management** section. He is also accredited by Association of **Professional Heritage Professionals (APHP)**. He further holds membership with the **International Association Impact Assessment South Africa (IAIAAsa)** and **KwaZulu-Natal Amafa and Research Institute.**

SPECIALIST DECLARATION OF INDEPENDENCE

I, Roy Muroyi, declare that –

- *I act as the independent specialist in this application;*
- *I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;*
- *I declare that there are no circumstances that may compromise my objectivity in performing such work;*
- *I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;*
- *I will comply with the Act, Regulations and all other applicable legislation;*
- *I have no, and will not engage in, conflicting interests in the undertaking of the activity;*
- *I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;*
- *all the particulars furnished by me in this form are true and correct; and*
- *I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.*

Signature of the Specialist

A handwritten signature in black ink. It begins with a large, stylized letter 'R' enclosed within a circle. A horizontal line extends from the right side of the circle, followed by a series of loops and a final vertical stroke that ends in a small horizontal bar, resembling a stylized 'M' or 'J'.

DOCUMENT INFORMATION

DOCUMENT INFORMATION ITEM	DESCRIPTION
Proposed development and location	Phase 1 Heritage Impact Assessment for the proposed construction and maintenance of new system 1 at Rand Water Vereeniging Treatment Works, the installation of approximately 7 Km Phase 2 Sludge Pipeline in Vereeniging, and a 1.5 Km Sludge Line in Panfontein, and Associated Infrastructure within the jurisdiction of Sedibeng District Municipality, Gauteng Province
Purpose of the study	To carry out a Phase 1 Heritage Impact Assessment to determine the presence/absence of archaeological assess their archaeological significance in terms of the National Heritage Resources Act of 1999 and SHARA guidelines.
Municipalities	Emfuleni Local Municipality and Sedibeng District Municipality
Contact Person	Sinnah Mhlongo
EAP Details	Selahle Consultancy and Projects (Pty) Ltd P. O. Box 1059, Halfway House, 1685 Cell: 079 569 5277 Tel: 011 026 2560 E-mail: ppp@scprojects.co.za
Heritage Consultant	Tsimba Archaeological Footprints (Pty) Ltd 24 Lawson Mansions, 74 Loveday Street, Johannesburg Gauteng, 2000 E-mail: rmuroyi23@gmail.com Phone : (+27) 813 717 993

EXECUTIVE SUMMARY

Heritage Impact Assessments (HIAs) are studies conducted by qualified heritage specialists that aim to identify heritage resources within a proposed development area, assess their significance, assess the impact of the development on the heritage resources and provide relevant mitigation measures to alleviate impacts to the heritage resources.

Tsimba Archaeological Footprints (Pty) Ltd was requested by Selahle Consultancy and Projects (Pty) Ltd to conduct a **Phase 1 Heritage Impact Assessment (HIA)** for the proposed construction and maintenance of new system 1 at Rand Water Vereeniging Treatment Works, the installation of approximately 7 Km Phase 2 Sludge Pipeline in Vereeniging, and a 1.5 Km Sludge Line in Panfontein, and Associated Infrastructure within the jurisdiction of **Sedibeng District Municipality, Gauteng Province**.

The scope of work for this Heritage Impact Assessment was to assess the footprint of the proposed development footprint for any cultural heritage resources, assess their significance and propose mitigation measures to be included in the **EMPr**.

The **HIA** is triggered in section 38 (1) (a) and (c) of the **National Heritage Act of 1999 (NHRA)**

The proposed project design also trigger Section 38 (1)a of the NHRA - the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

Section 38(1) c of the NHRA requires that a Heritage Impact Assessment (HIA) is required for certain kinds of development such as rezoning of land greater than 10 000 sq m in extent or exceeding 3 or more sub-divisions, or for any activity that will alter the character of a site greater than 5000 sqm.

The objective of the report is to fulfil the requirements of **South African Heritage Resources Agency (SAHRA)** in the in terms of **Section 38(1) of the NHRA** as read together with the **National Environmental Management Act, 1998 (Act No. 107 of 1998)**, as amended (NEMA).

The development may also impact on Cultural Heritage Resources such as graves, structures, archaeological and paleontological resources that are protected in terms of **Sections 34, 35, and 36 of the NHRA**. The field assessment followed systematic accepted archaeological standards. The aim of

the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the proposed project area.

The survey aimed to:

- Examine the proposed site to identify any archaeological and cultural heritage sites, as defined by the **SAHRA**.
- Provide a recording of any sites identified to a standard consistent with a site identification level, including significance assessments, details of the locations and extents of each site; and
- Assist in the development of site avoidance and management strategies, where necessary.

During the survey, no heritage resources were identified. General site conditions and features on sites were recorded by means of photographs, GPS locations and site descriptions. Possible impacts were identified and mitigation measures are proposed in this report. The **NHRA** require all heritage documents, compiled in support of an **Environmental Authorisation** application as defined by **NEMA EIA Regulations** section 40 (1) and (2), to be submitted to **SAHRA** for commenting. Upon submission to the **Provincial Heritage Authority** the project will be automatically given a case number as reference. As such the EIA report and its appendices must be submitted to the case as well as the EMP, once it's completed by the **Environmental Assessment Practitioner (EAP)**.

-Project Context-

The proposed development site is located within the jurisdiction of the Servitude of Rand Water within the Sedibeng District Municipality, Gauteng Province, South Africa. The study area is located in the Vaal area of Gauteng Province. The closest location to the project area with the greatest documentation is Melville Koppies. In the 1980s, Professor Mason of the Witwatersrand University's Department of Archaeology excavated the site. The study area is also located in close proximity to the Sharpeville Memorial Site

-Fatal Flaws-

With-mitigation, no fatal flaws are expected as a result of this project.

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ABBREVIATIONS

Acronyms	Description
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
CRM	Cultural Resource Management
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GIS	Geographic Information System
GPS	Global Positioning System
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Late Iron Age
MIA	Middle Iron Age
MSA	Middle Stone Age
SAHRA	South African Heritage Resources Agency

GLOSSARY

Achievement	≡ Something accomplished, esp. by valour, boldness, or superior ability
Aesthetic	≡ Relating to the sense of the beautiful or the science of aesthetics.
Community	≡ All the people of a specific locality or country
Culture	≡ The sum total of ways of living built up by a group of human beings, which is transmitted from one generation to another.
Cultural	≡ Of or relating to culture or cultivation.
Diversity	≡ The state or fact of being diverse; difference; unlikeness.
Geological (geology)	≡ The science which treats of the earth, the rocks of which it is composed, and the changes which it has undergone or is undergoing.
High	≡ Intensified; exceeding the common degree or measure; strong; intense, energetic
Importance	≡ The quality or fact of being important.
influence	≡ Power of producing effects by invisible or insensible means.
Potential	≡ Possible as opposed to actual.
Integrity	≡ The state of being whole, entire, or undiminished.
Religious	≡ Of, relating to, or concerned with religion.
Significant	≡ important; of consequence
Social	≡ Living, or disposed to live, in companionship with others or in a community, rather than in isolation.
Spiritual	≡ Of, relating to, or consisting of spirit or incorporeal being.
Valued	≡ Highly regarded or esteemed

1.0 INTRODUCTION

Summary of project description and why the developer is proposing to construct and/or develop and how it will benefit local economic market needs. Also summarises the application for approvals process, the name of the local heritage authority and the name of the heritage specialist company who were appointed to conduct the survey.

Tsimba Archaeological Footprints (Pty) Ltd was requested to conduct a **Phase 1 Heritage Impact Assessment (HIA)** for the proposed construction and maintenance of new system 1 at Rand Water Vereeniging Treatment Works, the installation of approximately 7 Km Phase 2 Sludge Pipeline in Vereeniging, and a 1.5 Km Sludge Line in Panfontein, and Associated Infrastructure within the jurisdiction of Sedibeng District Municipality, Gauteng Province. As part of the **Environmental Authorisation** application being undertaken by **Selahle Consultancy and Projects (Pty) Ltd** an independent **Environmental Assessment Practitioner (EAP)**.

-Legislation-

The National Heritage Resources Act (NHRA No. 25 of 1999) protects archaeological and palaeontological sites and materials, as well as graves/cemeteries, battlefield sites and buildings, structures and features over 60 years old. The South African Heritage Resources Agency (SAHRA) administers this legislation nationally, with Heritage Resources Agencies acting at a provincial level.

The HIA is triggered in section 38 of the National Heritage Act of 1999 *Section 38(1) (a) and (c) of the NHRA requires a;*

Heritage Impact Assessment (HIA) is required for certain kinds of development (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; and (c) any development or other activity which will change the character of an area of land, or water - (i) exceeding 5 000 m² in extent.

The objective of the report is to fulfil the requirements of **SAHRA** in the in terms of **Section 38(1) of the NHRA** as read together with the National **Environmental Management Act, 1998 (Act No. 107 of 1998)**, as amended (NEMA).

The development may also impact on Cultural Heritage Resources such as graves, structures, archaeological and paleontological resources that are protected in terms of **Sections 34, 35, and 36 of the NHRA**. The field assessment followed systematic accepted archaeological standards. The aim of

the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the proposed project area.

-Aims of the Study -

- ✧ Fulfill the statutory requirements of the National Heritage Resources Act, Act 25 of 1999, and section 38.
- ✧ 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 development project.
- ✧ Identify and describe impacts to archaeological and cultural resources, including intangible heritage resources.
- ✧ Make recommendations on mitigation measures.
- ✧ Identify and describe management measures.

- ✧ Survey the project area to identify and describe sites of archaeological, historical or cultural interest affected by the proposed development.
- ✧ Liaise with the local communities and stakeholders (if applicable) with regards to the impact of the development on the heritage resources.
- ✧ Produce a detailed technical HIA report describing the importance or significance of known heritage resources and whether these resources need to be conserved/protected
- ✧ Describe, in an HIA report, the procedures for mitigation of sites and provide an indication of time required for these management measures to be implemented.

2.0 DESCRIPTION OF THE RECEIVING ENVIRONMENT AND PROPOSED SCOPE

Description of soil typology, basic geology and settlement patterns, these may be used as an indicator for heritage sensitivity in specific cases or area

The proposed project area spans three locations but remains within the jurisdiction of the Servitude of Rand Water within the Sedibeng District Municipality, Gauteng Province, South Africa. The study area is located in the Vaal area of Gauteng Province. The Vaal is currently one of the most important industrial manufacturing centres in South Africa, with its main products being iron, steel, pipes, bricks, tiles and processed lime. Several coal, fire clay, silica and quarry stone mines are operational in the Vaal area.

Proposed Scope

The proposed project spans three locations but remains within the jurisdiction of the Servitude of Rand Water within the Sedibeng District Municipality.

New System 1 Vereeniging

The Vereeniging New System 1 at Rand Water Vereeniging Treatment Works will consist of the following infrastructure but not limited to:

- Construction of a new 250 MLD flocculator and 225 MLD sedimentation tank. ■ Installation of the de-sludge bridge.
- Construction of access roads.
- Installation of a raw water pipeline.
- Installation of a sludge pipeline.
- Demolition of System 1 tank (90 MLD) to allow for the installation of a new automated system capable of producing 1400 MLD.
- Construction of a Laboratory and
- The installation of a new Carbon Dioxide dosing Carbonisation Bay.

Phase 2 Sludge Pipeline in Vereeniging

- Phase 2 of the sludge pipeline starts from the sludge pumping station inside Vereeniging Treatment Works and runs through mostly an established industrial area in the south of Vereeniging.
- The proposed sludge pipeline runs alongside as well as across some of these services, which also include Rand Water Bulk Water Pipelines to the Vaal River Crossing.

- The installation of approximately 7 km in length of 1000mm nominal internal diameter steel sludge pipe with an 8mm wall thickness to be laid from the Vereeniging Pumping Station to the Vaal River Crossing.

The Panfontein Sludge Pipeline

The Panfontein Sludge Pipeline will consist of the installation of an interconnection new sludge pipeline with approximately 1.5km in length and 800mm in diameter.



Figure 1: Locality Map of the Phase 2 Sludge Pipeline



Figure 2: New System 1 (Vereeniging) Locality Map

3.0 METHODOLOGY

The methodology used to identify potential impacts and risks to heritage resources.

-Literature review-

The methodology used in this HIA is based on a comprehensive understanding of the current or baseline situation; the type, distribution and significance of heritage resources as revealed through desk-based study and additional data acquisition, such as archaeological investigations, built heritage surveys, and recording of crafts, skills and intangible heritage. This is systematically integrated using matrices with information on the nature and extent of the proposed engineering and other works to identify potential. The following tasks were also undertaken in relation to the cultural heritage and are described in this report:

The background information search of the proposed development area was conducted following the site maps from the client. Sources used in this study included:

- Published academic papers and **Heritage Impact Assessment (HIA)** and **Palaeontological Impact Assessment (PIA)** studies conducted in and around the region where the proposed infrastructure development will take place;
- Available archaeological literature on the study area was consulted;
- The **South African Heritage Resources Information System (SAHRIS)** website and the National Data Base were consulted to obtain background information on previous heritage surveys and assessments in the area; and other planning documents.
- Map Archives - Historical maps of the proposed area of development and its surrounds were assessed to aid information gathering of the proposed area of development and its surrounds.

-Field Survey-

The field survey for the proposed development was conducted on 11 July 2025. The survey was conducted by Archaeologists from Tsimba Archaeological Footprint through transect walking by two Tsimba Archaeologists. A ground survey, following standard and accepted archaeological procedures, was conducted.

-Data Consolidation and Report Writing-

Data captured on the development area (during the field survey) by means of a desktop study and physical survey is used as a basis for this HIA. This data is also used to establish assessment for any possible current and future impacts within the development footprint. This includes the following:

- Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value;
- A description of possible impacts of the proposed development, especially during the construction phase, in accordance with the standards and conventions for the management of cultural environments;
- Proposal of suitable mitigation measures to minimise possible negative impacts on the cultural environment and resources that may result during construction;
- Review of applicable legislative requirements, that is, the **NEMA (read together with the 2014 EIA Regulations of 2014, as amended)** and the NHRA.
- The consolidation of the data collected using the various sources as described above;
- Acknowledgement of impacts on heritage resources (such as unearthed graves) predicted to occur during construction; and **Geographical Information Systems (GIS)** mapping of known archaeological sites and maps in the region.
- A discussion of the results of this study with conclusions and recommendations based on the available data and study findings.

4.0 LEGISLATIVE FRAMEWORK

Summary of which legislation (including the relevant NHRA section) and local by-laws are triggered by the proposed development, and those identified are subsequently outlined and quoted.

Selahle Consultancy and Projects (Pty) Ltd has been appointed to obtain an **Environmental Authorization (EA)** in terms of the **National Environmental Management Act, 1998** (NEMA, Act No. 107 of 1998) which involves the submission of an **Environmental Impact Assessment Report** for the proposed construction and maintenance of new system 1 at Rand Water Vereeniging Treatment Works, the installation of approximately 7 Km Phase 2 Sludge Pipeline in Vereeniging, and a 1.5 Km Sludge Line in Panfontein, and Associated Infrastructure within the jurisdiction of Sedibeng District Municipality, Gauteng Province

As part of the process **Selahle Consultancy and Projects (Pty) Ltd** also requested **Tsimba Archaeological Footprints** to conduct a **heritage impact assessment (HIA)** as part of the EA process.

The National Heritage Resources Act (NHRA No. 25 of 1999) protects archaeological and palaeontological sites and materials, as well as graves/cemeteries, battlefield sites and buildings, structures and features over 60 years old. The South African Heritage Resources Agency (SAHRA) administers this legislation nationally, with Heritage Resources Agencies acting at a provincial level.

The HIA is triggered in section 38 of the National Heritage Act of 1999. Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include: *(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; and (c) any development or other activity which will change the character of an area of land, or water - (i) exceeding 5 000 m² in extent.*

The objective of the report is to fulfil the requirements of **SAHRA** in the in terms of **Section 38(1) of the NHRA** as read together with the **National Environmental Management Act, 1998 (Act No. 107 of 1998)**, as amended (NEMA).

The development may also impact on Cultural Heritage Resources such as graves, structures, archaeological and paleontological resources that are protected in terms of **Sections 34, 35, and 36 of**

the NHRA. The field assessment followed systematic accepted archaeological standards. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the proposed project area.

A **Phase 1 HIA** is a pre-requisite for development in South Africa as prescribed by **SAHRA** and stipulated by legislation. The overall purpose of heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources; and
- Make recommendations for the appropriate heritage management of these impacts.

5.0 DISCUSSION OF THE (PRE-) HISTORY OF THE STUDY AREA

The pre-history of a place encompasses the intricate interplay of social, geographical, and cultural elements that shape its identity. This background is often reflected in the evolution of place names, which carry archaeological memories of communities, conflicts, beliefs, and policies.

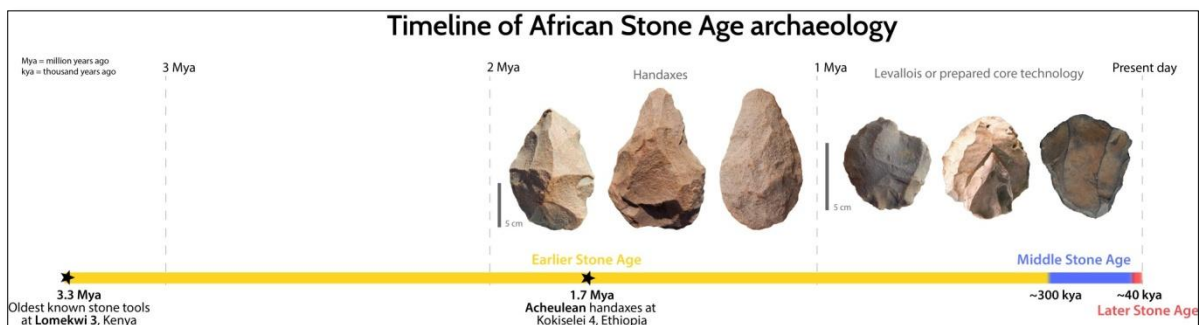


Figure 4: African Stone Age archaeology sequence as given by Emily Hallinan

The Gauteng region has produced evidence of communities from the Stone Age, Iron Age, Historical era, and Modern era that date back hundreds of thousands of years in prehistory. The palaeoanthropological remains discovered in the Sterkfontein and Maropeng regions, known as the Cradle of Mankind and a World Heritage Site, provide evidence of the history of human evolution.

There is proof that Stone Age communities used the area more extensively, such as along the Kliprivier where ESA and MSA implements were discovered. South of the current study region, LSA material has been found along ridges (Huffman 2008). Both in Redan and along the Vaal River are home to petroglyphs (Berg 1999). Many Iron Age sites in the area are connected to the progenitors of the contemporary Sotho-Tswana and Ndebele speaking populations.

The region served as a host to a variety of rival local settler populations during recent colonial history. The region served as the setting for several colonial wars. The area was ruled by the British towards the end of the 19th century, and the indigenous population was relocated. The majority of the land is now used for industrial, mining, agricultural, and commercial purposes. The project area is situated within this cultural landscape. According to archaeology, this area of Gauteng is home to four ceramic sequences from the Urethwe tradition that date back to the Late Iron Age and are related with Sotho-

Tswana people (Huffman 2007: 443). Historically, Sotho-Tswana-speaking people predominated in this region.

The closest location to the project area with the greatest documentation is Melville Koppies. In the 1980s, Professor Mason of the Witwatersrand University's Department of Archaeology excavated the site. The Klipriviers Berg Nature Reserve has also discovered numerous Late Iron Age stone-walled sites. On this subject, there is a lot of research.

These locations (Taylor's Type N, Mason's Class 2 & 5) are now jointly referred to as Klipriviersberg (Huffman 2007). These communities are complex in that aggregated settlements are prevalent, the outer wall occasionally incorporates scallops to identify back courtyards, there are more tiny stock kraals, and straight walls separate households in the residential zone. These locations were established in the 18th and 19th centuries.

6.0 DISCUSSION OF THE HISTORICAL PERIOD OF THE STUDY

The history of a place encompasses the intricate interplay of social, geographical, and cultural elements that shape its identity. This background is often reflected in the evolution of place names, which carry archaeological memories of communities, conflicts, beliefs, and policies.

The largest city in the Vaal Triangle is Vereeniging. The Vaal is today one of South Africa's most significant industrial production hubs, producing mostly iron, steel, pipes, bricks, tiles, and processed lime. coal, fire clay, silica, and other minerals. There are active quarry stone mining in the Vaal region. The neighboring gold mines in the area of Vereeniging are powered by a number of Eskom thermal power units. The Vaal area has a long history of providing water to Gauteng. The fast growth of the coal mining industry in the region led to the establishment of Vereeniging in 1892 on the farm Leeuwkuil. Samuel Marks established the De Zuid Afrikaanshe en Oranje Vrystaatsche Kolen and Mineralen Vereeniging (South African and Orange Free State Coal and Mineral Association) after purchasing the farm Leeuwkuil. Ox-drawn wagons from the Vereeniging coal mines transported coal to Kimberley. The town experienced tremendous growth as a mining town and later as the steel production hub of South Africa. In September 1900, a detention camp was built at Vereeniging after the city witnessed the Anglo-Boer War. There were numerous bloody conflicts fought around Vereeniging. The Anglo-Boer War of 1899–1902 is still visible in a well-preserved British blockhouse. It is situated in Witkop on the main route leading to Johannesburg (R59), 10 kilometers north of Meyerton. The concentration camp accommodated 185 men, 330 women, and 452 kids by October 1901. On the location of the detention camp is now the Maccauvlei Golf Course.

The former municipal cemetery, off Beaconsfield Avenue and close to the abattoir, is where the Vereeniging concentration camp cemetery is situated. There is also a memorial garden on the Makauvlei golf course, next to the clubhouse. The town of Vereeniging was crucial to South Africa's history, particularly at the conclusion of the Anglo-Boer War. The British Crown and the Boer Settlers fought for control of the resource-rich country of South Africa for a long time before signing the Treaty of Vereeniging, also known as the Peace of Vereeniging, on May 31, 1902.

The South African Republic, the Orange Free State, and the British Empire negotiated and signed the Treaty of Vereeniging, which put an end to the Second Boer War (1899–1902). The Peace of Vereeniging Monument was built to honor the 1902 agreement that put an end to the Anglo-Boer War.

The Sharpeville Massacre

The proposed development site falls within the same cultural landscape as the Shapeville Memorial Garden. Shapeville Memorial garden is located about 4km West of the proposed development site. The memorial garden serves as a source of solace for the neighbourhood and as a setting for small scale and sizable memorial ceremonies, including the yearly gathering on Human Rights Day.

The Sharpeville Massacre took place on March 21, 1960, after the Pan Africanist Congress organized a nonviolent demonstration in which black Africans burned the pass books that limited their freedom of movement. When the South African police opened fire on the crowd during what had initially been a peaceful rally, 69 people were killed. The event quickly turned violent.

The Sharpeville Massacre widened South Africa's distance from the world and sparked the Resistance Movement that resulted in the overthrow of Apartheid in 1993. The Sharpeville Massacre occurred on March 21, 1960, in the township of Sharpeville, South Africa. The incident resulted in the largest number of South African deaths (up to that point) in a protest against apartheid. It also came to symbolize that struggle.

The Sharpeville Massacre came about as a result of a series of mass actions, the ANC planned to launch a nationwide anti-pass campaign on 31 March - the anniversary of the 1919 anti-pass campaign. A week later, a breakaway group from the ANC, the Pan Africanist Congress (PAC) held its first conference in Johannesburg.

At this conference, it was announced that the PAC would launch its own anti-pass campaign. On March 21, an estimated 7,000 South Africans gathered in front of the Sharpeville police station to protest against the restrictive pass laws. Nearly 300 police officers arrived to put an end to the peaceful protest. As they attempted to disperse the crowd, a police officer was knocked down and many in the crowd began to move forward to see what had happened.

Police witnesses claimed that stones were thrown, and in a panicked and rash reaction, the officers opened fire on the crowd. Other witnesses claimed there was no order to open fire, and the police did not fire a warning shot above the crowd. As the protesters tried to flee the violent scene, police continued to shoot into the crowd. Sixty-nine Africans were killed and 186 were wounded, with most shot in the back.

Table 1: Significance of Cultural Landscape Impacts

		Landscape receptor sensitivity		
		High	Medium	Low
Assessment of significance of the cultural landscape impacts □ Red cells represent significant adverse impacts □ Yellow cells represent significant beneficial impacts □ Blue cells represent impacts that are not significant		Landscape with National heritage significance Status sites and cultural Landscapes with Provincial heritage Significance Status	Regional or Local Significance Heritage sites valued characteristics reasonably tolerant of changes of the type proposed.	A relatively unimportant cultural landscape with few features of value or interest, potentially tolerant of substantial change of the type proposed.
Major adverse	Significant adverse changes, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness for more than 2 years	High adverse significance	High/Medium adverse significance	Medium adverse significance
Moderate adverse	Noticeable but not significant adverse changes for more than 2 years or significant adverse changes for more than 6 months but less than 2 years, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness.	High/Medium adverse significance	Medium adverse significance	Low adverse significance
Slight adverse	Noticeable adverse changes for less than 2 years, significant adverse changes for less than 6 months, or barely discernible adverse changes for any length of time.	Medium adverse significance	Low adverse significance	Neutral
Neutral	Any change would be negligible, unnoticeable or there are no predicted changes.	Neutral	Neutral	Neutral
Slight benefit	Noticeable beneficial changes for less than 2 years, significant beneficial changes for less than 6 months, or barely discernible beneficial changes for any length of time.	Medium beneficial significance	Low beneficial significance	Neutral
Broader Cultural landscape		Local Significance Heritage sites valued characteristics reasonably tolerant of changes of the type proposed.		
Project Area		A relatively unimportant cultural landscape with few features of value or interest, potentially tolerant of substantial change of the type proposed.		

7.0 DISCUSSION OF FINDINGS

The discussion section is one of the final parts of this Report, in which an author describes, analyses, and interprets their findings.

The field survey lasted for a day on the 11th of July 2025. It was conducted by two archaeologists (Refilwe Kgomo and Stanley Ngwadzai) from Tsimba Archaeological Footprint and a **Rand Water** representative through driving and walking along the road reserve of the proposed development footprint.

A ground survey, following standard and accepted archaeological procedures, was conducted. The survey paid special attention to disturbed and exposed layers of soils such as eroded and disturbed surfaces along the existing roads. These areas are likely to be exposed or yield archaeological and other heritage resources that may be buried underneath the soil and be brought to the surface by animal and human activities including animal barrow pits and human excavated grounds.

The surface was also inspected for possible Iron Age scatters as we were guided by our literature review that noted the existence of Later Iron Age sites within the broader study area. The survey followed and investigated the cultural resources onsite using the best possible technologies for archaeological field surveys. The general project area was documented through photographs using a Nikon Camera (with built-in GPS). A Samsung GPS Logger (2018) was used to record the archaeological finds on site. The proposed development area is located within an extensively disturbed landscape. The topography of the study area is largely flat, disturbed by human activities. The original soil has been removed, greatly disturbed or buried. Land fill includes soil, rock, building and waste material. The original vegetation has been completely cleared in some portions and in some portions vegetation cover is overgrown. Given below is a description of each survey area, the findings and assessment of cultural significance of the survey area.

1) Phase 2 Sludge Pipeline

The proposed Phase 2 of the sludge pipeline starts from the sludge pumping station inside Vereeniging Treatment Works and runs through mostly an established industrial area in the south of Vereeniging. The proposed sludge pipeline runs alongside as well as across some of these services, which also include Rand Water Bulk Water Pipelines to the Vaal River Crossing. The proposed pipeline route runs through a disturbed landscape, in most sections it runs along already existing roads or tracks.

A few metres along the Phase 2 Sludge Pipeline route a few old buildings were observed. The property embodies a blend of architectural styles. From a distance, the most eye-catching feature of this property

is an old Edwardian type architecture building. The Edwardian type architecture emerged and gained prominence in the era of King Edward VII who took over from Queen Victoria of England. The prominence of the Edwardian style was rather short-lived, stretching only from 1901 to 1910. It is however important to note that these buildings do not fall within the proposed development footprint and will not be affected by the project.

No cultural heritage resources, archaeological findings or graves were observed on the surface during the phase one field study conducted by Tsimba Archaeological Footprints within the proposed development footprint.

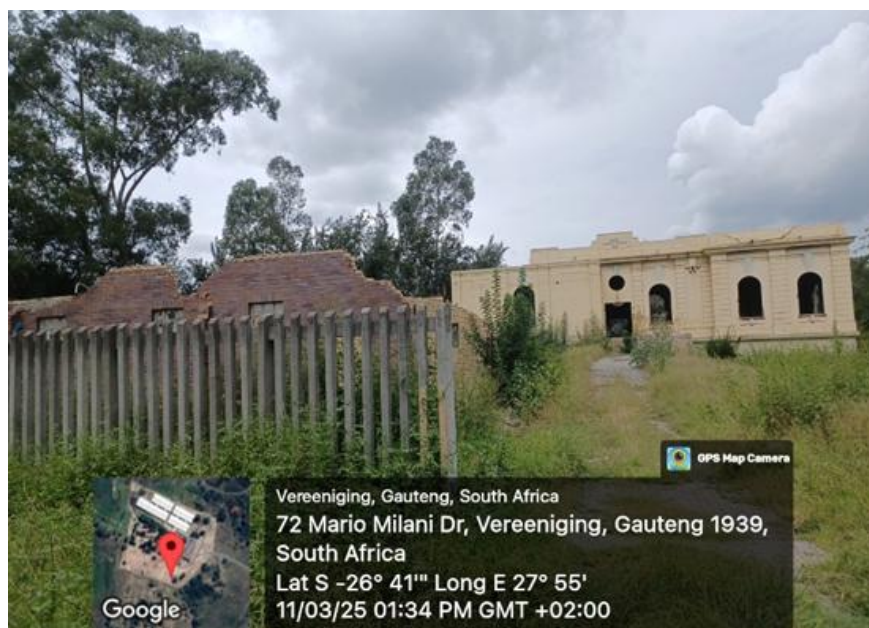


Figure 5: View of the old buildings adjacent to the proposed pipeline.

Table 2: Assessment of Values

Significance	Importance			
	Local	Regional	National	International
Architectural	Low	Low	Low	Low
Historical	Medium	Low	Low	Low
Scientific	Low	Low	Low	Low
Social	Low	Low	Low	Low

Assessment of Significance

Cultural Significance: Low

Heritage Significance: N/A

Field Rating: Destruction

Mitigation: Chance Finds Procedure

Probability of Impact: Not Probable

2) Panfontein Sludge Pipeline

The Panfontein Sludge Pipeline will consist of the installation of an interconnection new sludge pipeline with approximately 1.5km in length and 800mm in diameter. Despite the area's geological and archaeological significance, shaped by the Vaal River and its tributaries, no Stone or Iron Age artefacts were observed or identified within the proposed development area. The site's existing infrastructure and disturbed terrain may have contributed to the lack of visible archaeological materials. No archaeological recourse or graves were observed within this proposed development footprint.

Table 3: Assessment of Values

Significance	Importance			
	Local	Regional	National	International
Architectural	Low	Low	Low	Low
Historical	Low	Low	Low	Low
Scientific	Low	Low	Low	Low
Social	Low	Low	Low	Low

Assessment of Significance

Cultural Significance: Low

Heritage Significance: N/A

Field Rating: Destruction

Mitigation: Chance Finds Procedure

Probability of Impact: Not Probable

3) New System 1 (Vereeniging)

The Vereeniging New System 1 at Rand Water Vereeniging Treatment Works is located on a complex but extensively disturbed landscape with existing infrastructure, including:

- Old demolished sedimentation tanks were assessed to be over 60 years old but only the foundations remain.
- Old rusted pipes, potentially dating back to earlier industrial activities.
- Water canals, which may be of historical or heritage significance.
- Links to existing water management systems, including the Vaal River and its tributaries.
- Industrial infrastructure (e.g., treatment works, pipelines), which may have cultural or historical significance.

According to the archival research conducted by **Tsimba Archaeological Footprints**, In 1903, Vereeniging's Rand Water system was created. It was initially called the Rand Water Board, Rand Water was established to provide water to the quickly expanding Johannesburg area, which was facing water scarcity as a result of the Witwatersrand's thriving gold mining sector. The first purification facilities were constructed along the Vaal River, in Zwartkopjes, close to Vereeniging. This was the start of the massive water supply system that would eventually grow to be one of the world's largest bulk water suppliers. The Rand Water site proposed for development was established around the 1920s. This makes the site historically significant as it is over 60 years old and it triggers Section 34(1) of the National Heritage Resource Act, no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit, issued by the relevant provincial heritage resources authority, in this case, PHRAG.

No archaeological recourse or graves were observed within this proposed development footprint. **Rand Water** is however advised that it is essential to note that the absence of visible artefacts does not

necessarily preclude the presence of subsurface archaeological deposits. There are no fatal flaws expected within the proposed development footprint as no cultural heritage resources are known to exist within the proposed development footprint.

Given below is a pictographic presentation of the old buildings within the New System 1

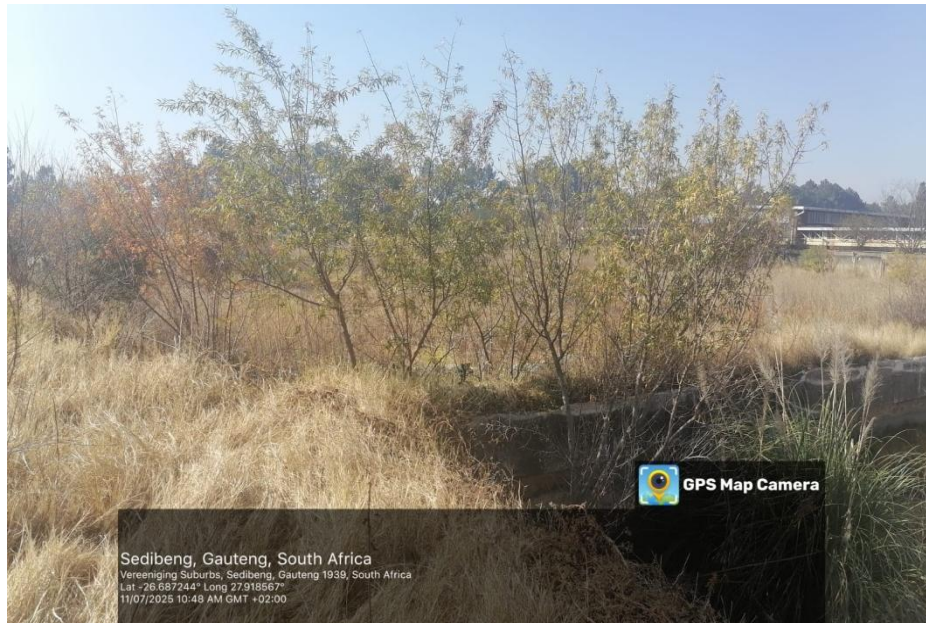


Figure 6: South Western view of the foundation within the New System 1.

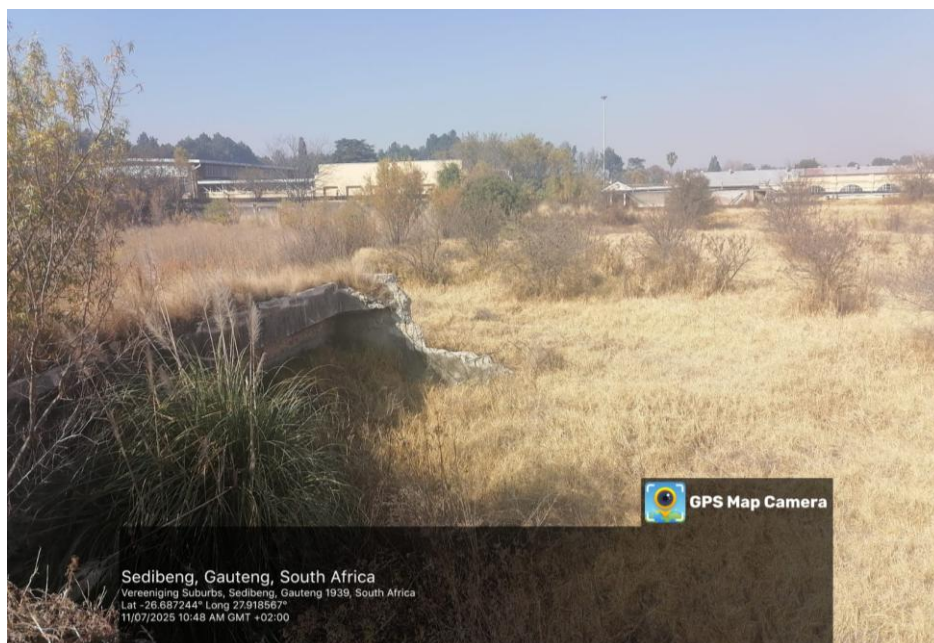


Figure 7: South Eastern view of the foundation within the New System 1.

Table 4: Assessment of Values

Significance	Importance			
	Local	Regional	National	International
Architectural	Low	Low	Low	Low
Historical	High	Medium	Low	Low
Scientific	Medium	Low	Low	Low
Social	Low	Low	Low	Low

Assessment of Significance

Cultural Significance: Medium

Heritage Significance: N/A

Field Rating: Mitigation before destruction

Mitigation: Chance Finds Procedure

Probability of Impact: Not Probable

Given below is a pictographic presentation of the general study area landscape;



Figure 8: Site Observations: Panfontein Project Area, 1.5km Sludgeline



Figure 9: Old pipe system rusted and discarded and located at the far end of the site.



Figure 10: Sludge deposits and paw prints, indicating potential wildlife presence.



Figure 11: Site Observations: The Start of the Final New System



Figure 12: View of the existing flocculators at Vereeniging treatment Works.



Figure 13: Proposed Infrastructure Layout/ Location of the New System 1.



Figure 14: Sludgeline Phase 2 pipeline crosses under Barrage Road from Rand Water VG property to the other side.



Figure 15: The pipeline continues traveling underground into private property, specifically within the yard of a private residence or facility.

Table 5: List of Coordinates of Finds

Heritage Site Type	Significance	Coordinates	Survey area
Edwardian Old Buildings	High	26° 41' 15.32" S 27° 55' 05.59" E	Phase 2 Sludge Pipeline Locality
Old Structures Foundations	Low	26° 41' 14.10" S 27° 55' 06.96" E	New System 1
Rand Water Treatment work	Medium -Local	26° 41' 42.08" S 27° 55' 38.03" E	New System 1

8.0 ASSESSMENT OF SIGNIFICANCE

An impact can be defined as any change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need. The matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

An impact can be defined as any change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need. The significance of the aspects/impacts of the process will be rated by using a matrix derived and adapted to some extent to fit this process. These matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts. The significance of the impacts will be determined through a synthesis of the criteria below:

Table 6: Significance of impacts synthesis criteria

Nature of the impact (N)		
Positive	+	Impact will be beneficial to the environment (a benefit).
Negative	-	Impact will not be beneficial to the environment (a cost).
Neutral	0	Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect.
Magnitude(M)		
Minor	2	Negligible effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*).
Low	4	Minimal effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*).
Moderate	6	Notable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*).
High	8	Considerable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been slightly modified and have a high conservation importance (high sensitivity*).

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Very high	10	Severe effects on biophysical or social functions / processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).
Extent (E)		
Site only	1	Effect limited to the site and its immediate surroundings.
Local	2	Effect limited to within 3-5 km of the site.
Regional	3	Activity will have an impact on a regional scale.
National	4	Activity will have an impact on a national scale.
International	5	Activity will have an impact on an international scale.
Duration (D)		
Immediate	1	Effect occurs periodically throughout the life of the activity.
Short term	2	Effect lasts for a period 0 to 5 years.
Medium term	3	Effect continues for a period between 5 and 15 years.
Long term	4	Effect will cease after the operational life of the activity because of natural process or by human intervention.
Permanent	5	Where mitigation there by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.
Probability of occurrence (P)		
Improbable	1	Less than 30% chance of occurrence.
Low	2	Between 30 and 50% chance of occurrence
Medium	3	Between 50 and 70% chance of occurrence.
High	4	Greater than 70% chance of occurrence.
Definite	5	Will occur, or where applicable has occurred, regardless or in spite of any mitigation measures.

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

$$\text{Significance Points (SP)} = (\text{Magnitude} + \text{Duration} + \text{Extent}) \times \text{Probability}$$

The significance of the ecological impact is therefore calculated by multiplying the severity rating with the probability

rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High (SP≥60), Medium (SP = 31-60) and Low (SP).

Table 7: Criteria for Rating of Classified Impacts

Significance of predicted NEGATIVE impacts		
Low	0-30	Where the impact will have a relatively small effect on the environment and will require minimum or no mitigation and as such have a limited influence on the decision
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated.
High	61-100	Where the impact will definitely have an influence on the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation.
Significance of predicted POSITIVE impacts		
Low	0-30	Where the impact will have a relatively small positive effect on the environment.
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment.
High	61-100	Where the positive impact will improve the environment relative to baseline conditions.

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Table 8: Impact Matrix for the three survey area/study area during construction and operational phases

Construction Phase	Phase 2 Sludge Pipeline	New System 1	Panfontein Sludge Pipeline
Without mitigation	Low	Medium	Low
With mitigation	Low	Low	Low
Operation Phase			
Without mitigation	Low	Low	Low
With mitigation	Low	Low	Low

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Table 9: Impact Assessment Matrix for the entire project area

Impacts and Mitigation measures relating to the proposed project during construction phase														
Activity/Aspect	Impact /	Aspect	Nature	Magnitude	Extent	Duration	Probability	Significance before mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance after mitigation
Clearing and Excavations	Destruction of archaeological remains	Cultural heritage	-	6	1	1	2	16	<ul style="list-style-type: none"> Use chance find procedure to cater for accidental finds 	2	1	1	1	4
	Disturbance of graves	Cultural heritage	-	6	1	1	2	16	<ul style="list-style-type: none"> Chance finds procedure and heritage induction for workers 	2	1	1	1	4
	Disturbance of buildings and structures older than 60 years old	Cultural heritage	-	6	2	1	2	16	<ul style="list-style-type: none"> Mitigations are given in the recommendations section 	4	1	1	1	4
Operational	Destruction living heritage and public monuments	Cultural heritage	-	2	1	1	1	4	<ul style="list-style-type: none"> Mitigation is not required because there are no public monuments within the proposed development site 	2	1	1	4	4

9.0 CONCLUSIONS

Brief summary of the findings and cultural heritage resources management goals that have been identified to guide the protection and public enjoyment of natural, cultural and recreational resources

Rand Water's Project area's **New System 1** site is located on an area associated with structures the age of 60 years old and a set of old structures foundations. Another set of old buildings were observed close to the **Phase 2 Sludge Pipeline**, it is however important to note that these buildings do not fall within the proposed development footprint and will not be affected by the project. Besides the old building foundations, no other cultural heritage resources were noted within the three proposed study areas.

Though the study area is located in close proximity to the Sharpeville Memorial Site, the study area is not part of any documented or known cultural heritage landscape. All three study areas are heavily disturbed due to previous water developments and other human impacts as a result no archaeological finds were made within the proposed development site and its immediate environs as well.

Should archaeological artefacts or skeletal material be revealed in the area during development activities, according to the **NHRA (Act No. 25) of 1999** section 36, such activities should be halted, and a heritage specialist or the **SAHRA** must be notified in order for an investigation and evaluation of the find(s) to take place. From a heritage perspective, the proposed development may be allowed to proceed subject to the recommendation given below. Measures for inclusion in the **EMPr** are also given in the recommendations below.

This report is an independent view and makes recommendations to **SAHRA** based on its findings. The authority will consider the recommendations and make a decision based on conservation principles.

10.0 RECOMMENDATIONS

Description and discussion of any no-go areas that have already been identified at this stage and must be further examined during the HIA

REASONED OPINION: The heritage practitioner proposes that the development be approved to proceed as planned under observation that the development dimensions do not extend beyond the proposed development sites.

RECOMMENDATION 1: Rand Water is advised that the old sedimentation tanks are graded to be of Medium Local significance and can be demolished without a demolition permit being sought from the Provincial Heritage Authority of Gauteng.

Expanded Recommendation: During the archaeological and heritage field survey, Tsimba Archaeologists noted the existence of the Rand Water Vereeniging Treatment Works and some old sedimentation foundations which were constructed around the 1920s. While the Rand Water Vereeniging Treatment Works is over the age of 60 years old, the Rand Water Vereeniging Treatment Works and old sedimentation tanks foundations (Built Environment) does not possess any historical or architectural significance neither is it associated with any major historical events or persons in the broader Vereeniging landscape. No features of these structures can still be salvaged or can be used for any future research purposes.

The old sedimentation tanks are graded to be of Medium Local significance; therefore no demolition permits will be necessary.

RECOMMENDATION 2: Rand Water is advised to avoid impacting on old building located a few metres away from the Phase 2 Sludge Pipeline route.

Expanded Recommendation: A few metres along the Phase 2 Sludge Pipeline route a few old buildings were observed. The property embodies a blend of architectural styles. However, these buildings do not fall within the proposed development footprint and should be avoided during the construction phase.

RECOMMENDATION 3: Should any graves be identified during the construction phase, ideally they should be left in situ and demarcated with a red tape. Construction should be halted immediately and an Archaeologist/SAHRA should be called on site.

RECOMMENDATION 4: Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the Provincial Heritage Authority of Gauteng.

RECOMMENDATION 5: Noteworthy that any measures to cover up the suspected archaeological

material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by the **Provincial Heritage Authority of Gauteng.**

RECOMMENDATION 6: A Chance Finds Procedure (CFP) given in Appendix B below should be included in the EMPr.

11.0 REFERENCES

All literature references used in the compilation of this report e.i common academic referencing convention; this must include newspapers, website links and archival documents.

Bergh, J.S., (ed.) Geskiedenisatlas van Suid-Afrika.Die vier noordelike provinsies. Pretoria: J. L. van Schaik Uitgewers. 1999.

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Henry F. J, (1982). *From the Congo to Soweto: U.S. Foreign Policy Toward Africa Since 1960* (New York: William Morrow and Company, Inc.

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APPENDIX A: DEFINITION OF TERMS ADOPTED IN THIS HIA

The terminology adopted in this document is mainly influenced by the NHRA of South Africa (1999) and the Burra Charter (1979).

Adaptation: Changes made to a place so that it can have different but reconcilable uses.

Artefact: Cultural object (made by humans).

Buffer Zone: Means an area surrounding a cultural heritage which has restrictions placed on its use or where collaborative projects and programs are undertaken to afford additional protection to the site.

Co-management: Managing in such a way as to consider the needs and desires of stakeholders, neighbours and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

Conservation: In relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects to safeguard their cultural significance as defined. These processes include, but are not necessarily restricted to preservation, restoration, reconstruction and adaptation.

Contextual Paradigm: A scientific approach which places importance on the total context as catalyst for cultural change and which specifically studies the symbolic role of the individual and immediate historical context.

Cultural Resource: Any place or object of cultural significance

Cultural Significance: Means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance of a place or object for past, present and future generations.

Feature: A coincidental find of movable cultural objects.

Grading: The South African heritage resource management system is based on a grading system, which provides for assigning the appropriate level of management responsibility to a heritage resource.

Heritage Resources Management: The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which are of value to the general public.

Heritage Resources Management Paradigm: A scientific approach based on the Contextual paradigm but placing the emphasis on the cultural importance of archaeological (and historical) sites for the community.

Heritage Site Management: The control of the elements that make up the physical and social environment of a site, its physical condition, land use, human visitors, interpretation etc. Management may be aimed at preservation or, if necessary, at minimizing damage or destruction or at presentation of the site to the public.

Historic: Means significant in history, belonging to the past; of what is important or famous in the past.

Historical: Means belonging to the past or relating to the study of history.

Maintenance: Means the continuous protective care of the fabric, contents and setting of a place. It does not involve physical alteration.

Object: Artefact (cultural object)

Paradigm: Theories, laws, models, analogies, metaphors and the epistemological and methodological values used by researchers to solve a scientific problem.

Preservation: Refers to protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change and may include stabilization where necessary. Preservation is

appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

Protection: With reference to cultural heritage resources this includes the conservation, maintenance, preservation and sustainable utilization of places or objects in order to maintain the cultural significance thereof.

Place: Means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

Reconstruction: To bring a place or object as close as possible to a specific known state by using old and new materials.

Rehabilitation: The repairing and/ or changing of a structure without necessarily taking the historical correctness thereof into account.

Restoration: To bring a place or object back as close as possible to a known state, without using any new materials.

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

Sustainable: Means the use of such resource in a way and at a rate that would not lead to its long-term decline, would not decrease its historical integrity or cultural significance and would ensure its continued use to meet the needs and aspirations of present and future generations of people.

APPENDIX B: CHANCE FINDS PROCEDURE

What is a Chance Finds Procedure?

The purpose of Archaeological Chance Find Procedure (CFP) is to address the possibility of cultural heritage resources and archaeological deposits becoming exposed during ground altering activities within the project area and to provide protocols to follow in the case of a chance archaeological find to

ensure that archaeological sites are documented and protected as required. A CFP is a tool for the protection of previously unidentified cultural heritage resources during construction and mining. The main purpose of a CFP is to raise awareness of all construction workers on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources.

Chance finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Archaeological sites are protected by The National Heritage Resources Act of 1999. They are non-renewable, very susceptible to disturbance and are finite in number. Archaeological sites are an important resource that is protected for their historical, cultural, scientific and educational value to the general public, local communities.

What are the objectives of the CFP?

The objectives of this “Chance Find Procedure” are to promote preservation of archaeological data while minimizing disruption of construction scheduling. It is recommended that due to the moderate to high archaeological potential of some areas within the project area, all on site personnel and contractors be informed of the Archaeological Chance Find Procedure and have access to a copy while on site.

Where is a CFP applicable?

Developments that involve excavation, movement, or disturbance of soils have the potential to impact archaeological materials, if present. Activities such as road construction, land clearing, and excavation are all examples of activities that may adversely affect archaeological deposits. Chance finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the construction manager must ensure that all personnel on the proposed construction site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance Find Procedure details the necessary steps to be taken if any culturally significant artefacts are found during mining or construction.

What is the CF Procedure?

The following procedure is to be executed in the event that archaeological material is discovered:

- All construction activity in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the site.

CULTURAL HERITAGE IMPACT ASSESSMENT REPORT

- Briefly note the type of archaeological materials you think you've encountered, its location, and if possible, the depth below surface of the find.
- Report your discovery to your supervisor or if they are unavailable, report to the project Environmental Control Officer (ECO) who will provide further instructions.
- If the supervisor is not available, notify the ECO immediately. The ECO will then report the find to the Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide a 25m buffer zone from all sides of the find.
- An archaeologist should give recommendations on the cause of action to be taken.

APPENDIX C: HUMAN REMAINS AND BURIALS IN DEVELOPMENT

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.

First, establish the context of the burial:

1. 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 NHRA.
2. Is this the grave of a victim of conflict? If so, it is protected by the NHRA (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below).
3. 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 NHRA (Section 36(3b)).
4. Are the human or hominid remains older than 100 years? If so, they are protected by the NHRA (Section 35(4), see also definition of “archaeological” in Section 2).

Second, refer to the terms of the NHRA most appropriate to the situation, or to other Acts and Ordinances:

1. Human remains that are NOT protected in terms of the NHRA (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.
2. All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.
3. 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.

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.

1. 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.
2. 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.
3. 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 reinterment of bodies, and to provide for matters incidental thereto”. This ordinance is supplemented and support by local authorities regulations, municipality by-laws and ordinances.

APPENDIX D: EXPANDED LEGISLATIVE FRAMEWORK IN HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

This report is largely informed by principles and legislative frameworks of the National Heritage Resources Act No. 25 of 1999.

Section 5: General principles for heritage resources management

(1) All authorities, bodies, and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise 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 should manage heritage resources in the interests of all South Africans. (c) heritage resources can 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

Section 36: General principles for heritage resources management

(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 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 the 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 accordance with regulations of the responsible heritage resources authority

(a) investigate 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 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, concerning 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-enter the remains of that person in a prominent place in the capital of the Republic.

Section 47: General principles for heritage resources management.

(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, before 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.

APPENDIX E: THE CONCEPT OF HERITAGE MANAGEMENT

