



# PHASE 1 HERITAGE IMPACT ASSESSMENT REPORT

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The proposed Umdoni South Bulk Water  
Pipeline and Reticulation in the Ugu  
District of Kwa-Zulu Natal

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**TSIMBA**



ARCHAEOLOGICAL  
FOOTPRINTS (PTY) LTD

February 2024



## ***AUTHOR'S CREDENTIALS***

The report was authored by Mr. Roy Muroyi, Principal Heritage Specialist and Archaeologist for Tsimba Archaeological Footprints (Pty) Ltd. Roy is a flexible, creative, hard-working and professionally minded cultural heritage specialist with realistic methods. He has over nine years' experience in conducting and compiling Heritage Impact Assessments, Conservation Management Plans and Eco-Tourism Impact Assessments in South Africa, Botswana and the Republic of Malawi.

Roy holds a Master's Degree in Heritage Studies (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 Master's 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, Archaeology, Cultural Heritage and Museum Studies (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 100-200 Heritage Impact Assessment reports for proposed Phase 1 and 2 Heritage Impact Assessments for:- Linear developments, Projects with an area over 5000m<sup>2</sup>, 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 (IAIAsa) and KwaZulu-Natal Amafa and Research Institute.

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**

DOCUMENT INFORMATION



## **DOCUMENT INFORMATION**

| <b>DOCUMENT INFORMATION ITEM</b>         | <b>DESCRIPTION</b>                                                                                                                                                                                                         |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Proposed development and location</b> | The proposed construction for the proposed Umdoni South Bulk Water Pipeline in the Ugu District of Kwa-Zulu Natal.                                                                                                         |
| <b>Purpose of the study</b>              | 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, 1999 (Act No. 25 of 1999). |
| <b>Municipalities</b>                    | UMdoni Local Municipality                                                                                                                                                                                                  |
| <b>Client Details</b>                    | EnviroPro Environmental Consulting (Pty) Ltd<br>Phone: +27 (031) 765 2942<br>Email:kristen@enviropro.co.za                                                                                                                 |
| <b>Heritage Consultant</b>               | Tsimba Archaeological Footprints (Pty) Ltd<br>24 Lawson Mansions<br>74Loveday Street, Johannesburg<br>Gauteng, 2000<br>E-mail: <a href="mailto:rmuroyi23@gmail.com">rmuroyi23@gmail.com</a><br>Phone : (+27) 813 717 993   |

## ***EXECUTIVE SUMMARY***

This report and cultural heritage survey stands in the gap to strike a balance between sustainable development and cultural heritage management. Tsimba Archaeological Footprints (Pty) Ltd was therefore appointed by EnviroPro Environmental Consulting (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed Umdoni South Bulk Water Pipeline and Reticulation in the Ugu District of Kwa-Zulu Natal.

The aim of this particular survey was to identify and document archaeological sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the footprint of the proposed Umdoni South Bulk Water Pipeline project.

Cultural heritage resources face increasing pressures and threats from development and change in the contemporary world, a global situation that frequently results in compromise or loss of historic fabric and its associated values. Placing cultural heritage management at the heart of development policies constitutes an essential investment in the world's future and a pre-condition to successful globalization processes that take into account the principle of cultural diversity (UNESCO 2016: 2).

The length of the reticulation and pipeline project triggers section 41 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018). Section 41 (1)(a) refers to the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length. The proposed development is inbetween Kelso and Elysium. Other areas affected by the proposed project include; Ifafa Beach , Bazley beach , Sezela, Uswani, Amangamazi, Selbourne , Imbabala, and Pennington.

The aim of this particular survey was to identify and document archaeological sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the footprint of the proposed Umdoni South Bulk Water Pipeline and Reticulation project. The field survey was undertaken in September of 2023 and in February 2024.

The Umdoni South Bulk Water Pipeline cultural heritage field survey was conducted while the ground was visibly wet. Due to wet conditions in certain areas, particularly those characterized by sugarcane farming, accessibility was limited. Nevertheless, a comprehensive survey was carried out where possible, including a site walk to visually inspect the land for archaeological artifacts. The field survey also noted that the proposed pipeline routes are situated within a heavily degraded area, and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical, or burial sites, due to previous earth moving disturbances resulting from developments and other land uses in the project area. The proposed project is acceptable (from a heritage perspective) therefore Tsimba Archaeological Footprints (Pty) Ltd would like to request the Amafa research and Institute to exercise their discretion and offer an approval for the proposed project subject to the recommendations given above.

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# ACRONYMS

| Acronyms | Description                                              |
|----------|----------------------------------------------------------|
| AIA      | Archaeological Impact Assessment                         |
| ASAPA    | Association of South African Professional Archaeologists |
| CRM      | Cultural Resource Management                             |
| DEA      | Department of Environmental Affairs                      |
| DRDLR    | Department of Rural Development and Land Reform          |
| 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                  |

## DEFINATION OF TERMS

|                      |                                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                        |

# INTRODUCTION

EnviroPro has been appointed by Ensync Engineers as the EAP for the Umdoni South Bulk Water Augmentation. EnviroPro in turn contracted Tsimba Archaeological Footprints to conduct a Phase 1 Archaeological and cultural heritage impact Assessment as part of the Environmental Authorization process. For this project, the Kwazulu-Natal Heritage Act, No. 4 of 2008 are of importance and the following sites and features are protected:

- Archaeological artefacts, structures and sites older than 100 years;
- Ethnographic art objects (e.g. prehistoric rock art) and ethnography;
- Objects of decorative and visual arts
- Military objects, structures and sites older than 75 years
- Historical objects, structures and sites older than 60 years
- Proclaimed heritage sites
- Grave yards and graves older than 60 years
- Meteorites and fossils
- Objects, structures and sites of scientific or technological value.

The terms of reference for the study

- a) Undertake a thorough onsite survey of all areas to be affected by the proposed Umdoni South Bulk Water Pipeline, and map heritage resources. Where applicable, indicate no development zones and provide buffers in accordance with the South African legislation.
- b) The identification and assessment of potential impacts on cultural heritage resources, including historical sites arising from the proposed development.
- c) The early identification of any red flag and fatal flaw issues or impacts.
- d) Information must be provided on the following:
  - i. Results of an overview survey of the project area, and the identification of cultural heritage resources that may be affected by the proposed development or which may affect the proposed development during construction and operation.
  - ii. Recommended mitigation measures for enhancing positive impacts and avoiding or minimizing negative impacts and risks (to be implemented during design, construction and operation).
- e) Formulation of a protocol to be followed by the Applicant for the identification, protection or recovery

of cultural heritage resources during construction and operation, including the completion of all necessary permit applications, which may be required.

f) The identification and assessment of any paleontological aspects or findings arising from the proposed development.

g) Identify permit requirements as related to the removal and/or destruction of heritage resources (maritime and terrestrial).

Cultural heritage Impact assessments are meant to draw attention to the effects of the proposed project on the heritage place and how these effects can be mitigated. A cultural heritage impact assessment report will therefore include the legislative framework, the consultation process, the cultural and environmental baseline, mitigation as well as monitoring plans. Mitigation measures aim to avoid, minimize, remedy or compensate for the predicted adverse impacts of a proposed project on a cultural heritage resource or site.

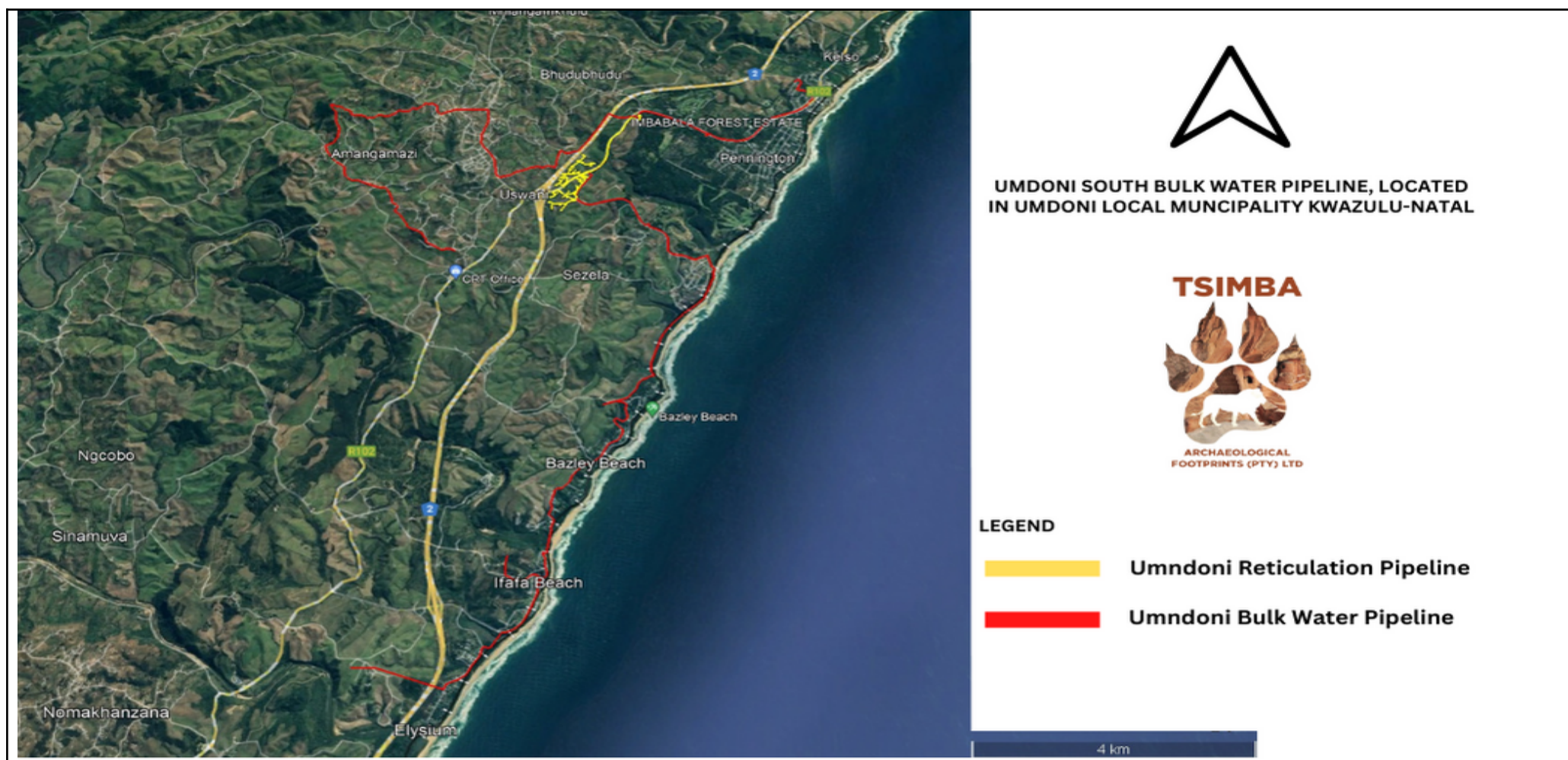
## ***THE OBJECTIVES OF THE STUDY***

Heritage impact assessments (hereinafter referred to as HIA) are applied to cultural heritage assets. This is a recent notion grounded in the requirements to perform environmental assessments at the project or more strategic levels. The general objective of the cultural heritage survey is to record and document cultural heritage remains consisting of both tangible and intangible archaeological and historical artefacts, structures (including graves), settlements and oral traditions of cultural significance. As such the terms of reference of this survey are as follows:

- Identify and provide a detailed description of all artefacts, assemblages, settlements and structures of an archaeological or historical nature (cultural heritage sites) located on the study area,
- Estimate the level of significance/importance of these remains in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value,
- Assess any impact on the archaeological and historical remains within the area emanating from the development activities, and
- Propose recommendations to mitigate heritage resources where complete or partial conservation may not be possible and thereby limit or prevent any further impact.

## ***CRM MANAGEMENT POLICY OBJECTIVES***

- i. To preserve representative samples of the National archaeological resources for the scientific and educational benefit of present and future generations;
- ii. To ensure that development proponents consider archaeological resource values and concerns during project planning; and
- iii. To ensure where decisions are made to develop land, the proponents adopt one of the following actions:
  - avoid archaeological sites wherever possible;
  - implement measures which will mitigate project impacts on archaeological sites; or
  - Compensate the local communities for unavoidable losses of significant archaeological value.



**Figure 1: Locality map**

## ***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 HIA and 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 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 lasted for one day, it was conducted on the 27<sup>th</sup> of November 2023. It was conducted by an Archaeologist from Tsimba Archaeological Footprint through driving and walking. A ground survey, following standard and accepted archaeological procedures, was conducted. The survey also paid special attention to disturbed and exposed layers of soils such as eroded surfaces along the sugar cane fields and the canals. These areas are likely to 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.

# 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:

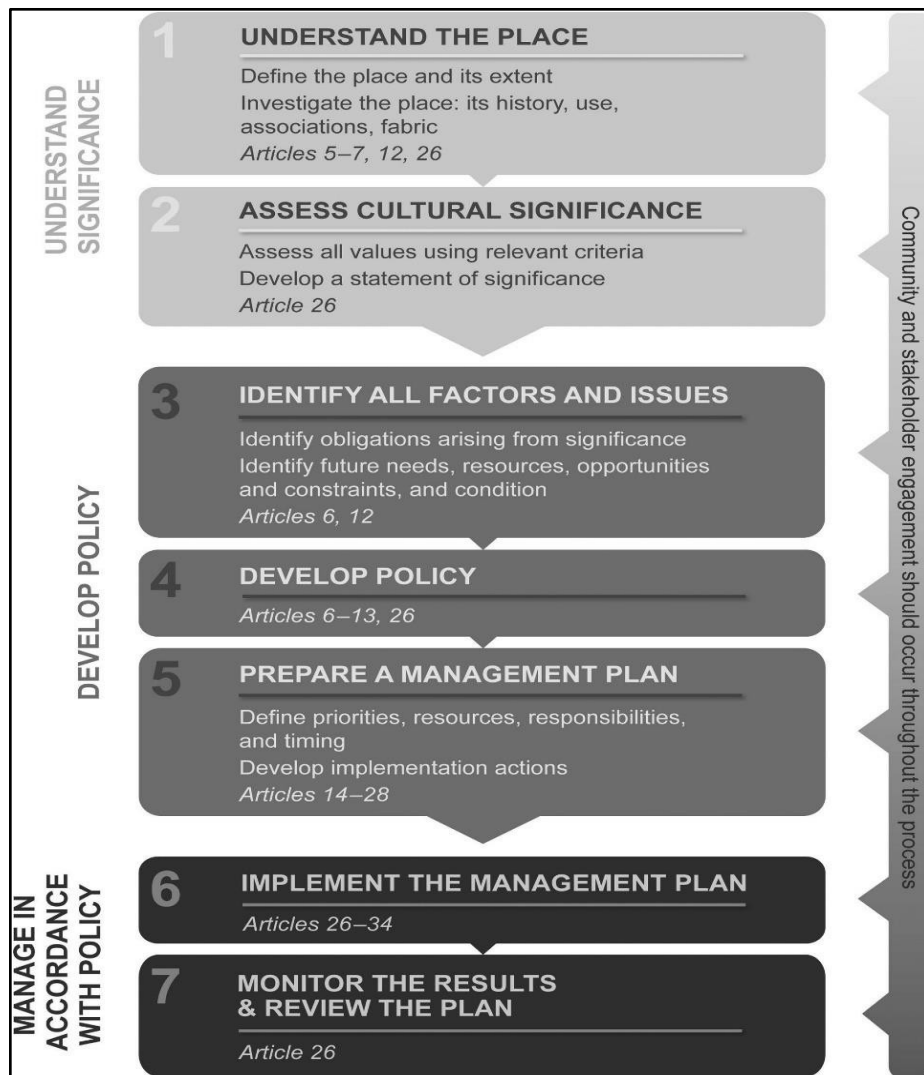
- Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value;
- A description of possible impacts of the proposed development, especially during the construction phase, in accordance with the standards and conventions for the management of cultural environments;
- Proposal of suitable mitigation measures to minimize 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) the NHRA of 1999 and the KwaZulu-Natal Heritage Act (Act no 4 of 2008).
- 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
- Geological Information Systems 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

The length of the reticulation and pipeline project triggers section 41 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018). Section 41 (1)(a) refers to the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

Section 41 (1)(a) refers to: “the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length”. The installation and operation of the pipeline may also impact graves, structures, archaeological and palaeontological resources that are protected in terms of sections 37, 38, 39, and 40 of the KwaZulu-Natal Amafa and Research Institute Act, 2018.

This study is further guided by the Burra Charter which offers a framework for heritage management in which multiple—sometimes conflicting—heritage and other values can be understood and explicitly addressed. The Burra Charter is based on the International Charter for the Conservation and Restoration of Monuments and Sites 1964 and was adopted by the Australian International Council on Monuments and Sites (ICOMOS) in 1979. The Burra Charter sets a standard of practice for those who provide advice, make decisions about or undertake works to places of cultural significance and is applicable to all places of cultural significance including natural, indigenous and historic places of cultural value. The Burra Charter provides for a flow chart that sets out the sequence underlining the process of heritage assessment. .



**Figure 2: The Burra Charter process: steps in planning for and managing a place of cultural significance. (**

**Reproduced from Australia ICOMOS 2013)**

The Ugu region, like much of KwaZulu Natal, has the potential to host Stone Age sites, as indicated by Deacon and Deacon in 1997. Surveys of the broader Port Shepstone area were carried out in the 1970s and 1980s by archaeologists from the former Natal Museum and Natal Parks Board (Prins 2013). Further extensive surveys of the Paddock and wider Oribi Gorge sites inland were conducted by archaeologists such as J. H. Cable from the Natal Museum (Cable 1984) and others (Mazel 1989).

The Paddock and Port Shepstone regions are known to contain numerous archaeological sites from various time periods and cultural backgrounds, according to literature from the KwaZulu-Natal Museum. These sites include remains from the Early, Middle, and Later Stone Ages, as well as the Early and Later Iron Ages, and some medieval sites (Prins 2013). Additionally, the areas boast Victorian and Edwardian-era structures, especially near Paddock (Prins 2016). However, the specific environment currently under consideration for the project shows little potential for Stone Age sites (Prins 2016).

Based on available data, evidenced by Prins in 2010, it is noted that the wider surrounding area to the east holds a wide array of archaeological sites spanning different time periods and cultural backgrounds. These include sites representing the Early, Middle, and Later Stone Ages, as well as the Early and Later Iron Ages, with a few medieval sites. Typical of this tradition is the presence of Early Stone Age tools near permanent water sources. The eastern section of the greater Port Shepstone area near Harding also features later Iron Age sites, indicating the arrival of agro-pastoralist communities from East Africa a millennium ago. These later Iron Age communities in KwaZulu-Natal are believed to be the direct ancestors of Zulu-speaking people (Prins 2013:4-5).

Adjacent to Port Shepstone along the coastal region are Stone Age sites representing various time periods and cultural heritages, mostly located outdoors. Evidence of Early Stone Age artifacts close to permanent water sources signifies this tradition. In the southern part of the proposed development area in larger Port Shepstone, later Iron Age sites are also present. These communities were agro-pastoralists who migrated from East Africa to southern Africa around a thousand years ago. The immediate predecessors of the Zulu-speaking community were from later Iron Age settlements in KwaZulu-Natal.

## *DISCUSSION OF FINDINGS*

The proposed development footprint has been changed three times. On two of these occasions field surveys have had to be conducted. The first survey was conducted in September of 2023 and there were deviations that were proposed by the client after the September survey. Another deviation was proposed and no survey was undertake. The client again proposed another deviation and then it was deemed necessary that a second survey be undertaken to carter for the deviations. The second survey was undertaken in February of 2024. The results given below constitute results for both surveys.

Both surveys were conducted primarily using vehicles to access different locations within the project area. However, in September due to wet conditions in certain areas, particularly those characterized by sugarcane farming, accessibility was limited. Nevertheless, a comprehensive survey was carried out where possible, including a site walk to visually inspect the land for archaeological artifacts. The February 2024 survey was however not affected by the rains and ground visibility was quite good.

The survey was conducted primarily using vehicles to access different locations within the project area. However, due to wet conditions in certain areas, particularly those characterized by sugarcane farming, accessibility was limited. Nevertheless, a comprehensive survey was carried out where possible, including a site walk to visually inspect the land for archaeological artifacts.

Based on the site assessment conducted for the proposed Umdoni South Bulk Water Pipeline project, there are no identified historical or archaeological artifacts that would be impacted by the proposed development. The limitations of the survey, particularly in inaccessible wet areas, were taken into account, and it is deemed that these limitations do not significantly affect the overall findings and conclusions of this assessment.

Geographically, the Coastal Zone is the land between the seawater and low-lying coastlands. The Coastal Zone in South Africa stretches along the Indian Ocean (on the east coast) and the Atlantic Ocean (on the west coast). Umdoni Municipality is strategically located along major route N2, R612 and R102. It serves as the gateway of Ugu District Municipality from the North. The Umdoni Local Municipality is a Category B (which refers to a local municipality that shares municipal executive and legislative

authority in its area with a Category C municipality within whose area it falls in *i.e.* Ugu District Municipality). It is the smallest of four municipalities in the district, accounting for just under a quarter of its geographical area.

There were no archaeological sites or materials discovered along the pipeline route. The impacted terrain has been severely damaged by residential property developments, agricultural land usage in the past and present, and agricultural land use overall. This decreased the likelihood of finding important in situ archaeological sites that could be conserved in place. As a result, the proposed pipeline installations will add to the project area's development. However, because of infrastructural improvements and other destructive land use patterns like deep plowing, bulk water pipeline, road works, and residential areas that already exist on the project area, the chances of recovering significant archaeological materials were severely limited and compromised.



***Figure 3: View of a guest lodge within the proposed development footprint***



***Figure 4:View of some vegetation cover on site***



***Figure 5: View of Imbabala forest Estate***



***Figure 6: View of Sezela high density suburb along the N2***



***Figure 7: View of Sezela area from the inside***



***Figure 8: A T junction showing the different roads within the project footprint***



***Figure 9:View of the N2 and R102 fly over***



***Figure 10:View of the Uswani area in Sezela***



***Figure 11: View of an open field area just after the fly over***



***Figure 12: Representational picture of some of the infrastructure in Uswani area***



**Figure 13: View of a road reserve where the pipeline will pass through**



**Figure 14: View of a portion of the development footprint taken during the September rains**

## RECOMENDATIONS

The Umdoni South Bulk Water Pipeline and reticulation cultural heritage field survey was conducted while the ground was visibly wet. Due to wet conditions in September 2023 certain areas, particularly those characterized by sugarcane farming, accessibility was limited. Nevertheless, a comprehensive survey was carried out where possible, including a site walk to visually inspect the land for archaeological artifacts in February 2024. Both field surveys noted that the proposed pipeline routes are situated within a heavily degraded area, and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical, or burial sites, due to previous earth moving disturbances resulting from developments and other land uses in the project area.

With the exception of a Chance Finds Procedure, no further mitigation is required since no significant cultural heritage resources will be affected by the proposed development. The study, did not find any permanent barrier to the proposed development. The following recommendations are based on the results of the A/HIA research, cultural heritage background review, site inspection and assessment of significance. Based on the findings of this study, the proposed development is feasible from an archaeological perspective. The project may be approved subject to the recommendations given below.

- (i) A chance Find Protocol should be added to the EMPr if any heritage resources (listed in iv) are found by the contractor, environmental officer, or other responsible person once excavations have commenced then they should be reported to Amafa research and Institute. The structures may be demolished as they are extremely dilapidated and are no longer structurally sound.
- (ii) In the event that any cultural heritage resources are discovered operations exposing archaeological and historical residues, including modern graves, should cease immediately pending an evaluation by the heritage authorities.
- (iii) The potential impact of the development on archaeological resources is **LOW**, therefore a field survey or further mitigation or conservation measures are necessary if cultural heritage resources are found (according to SAHRA protocol).
- (iv) A Chance Finds Procedure should be implemented, and a qualified archaeologist must be called on site if cultural heritage resources are found during construction. The following indicators of unmarked sub-surface sites could be encountered;
  - Bone concentrations, either animal or human
  - Ceramic fragments such as pottery shards either historic or pre-contact
  - Stone concentrations of any formal nature

**Reasoned Opinion:** This project directly improves the lively hoods of South Africans, and it is the

reasoned opinion of the author of this report, that the proposed project is acceptable. Tsimba archaeological Footprints would therefore like to request the Amafa Research and Institute to exercise their discretion and offer a conditional approval for the project.

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# TERMINOLOGY USED IN THE REPORT

- 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

## **SITE SIGNIFICANCE CLASSIFICATION**

| <b>SAHRA'S<br/>SITE SIGNIFICANCE MINIMUM STANDARDS</b> |              |                           |                                              |
|--------------------------------------------------------|--------------|---------------------------|----------------------------------------------|
| <b>Filed Rating</b>                                    | <b>Grade</b> | <b>Classification</b>     | <b>Recommendation</b>                        |
| <b>1. National Significance (NS)</b>                   | Grade 1      |                           | Conservation; National Site nomination       |
| <b>2. Provincial Significance (PS)</b>                 | Grade 2      |                           | Conservation; Provincial Site nomination     |
| <b>3. Local Significance (LS)</b>                      | Grade 3A     | High Significance         | Conservation; Mitigation not advised         |
| <b>4. Local Significance (LS)</b>                      | Grade 3B     | High Significance         | Mitigation (Part of site should be retained) |
| <b>5. Generally Protected A (GP.A)</b>                 |              | High/ Medium Significance | Mitigation before destruction                |
| <b>6. Generally Protected B (GP.B)</b>                 |              | Medium Significance       | Recording before destruction                 |
| <b>7. Generally Protected C (GP.A)</b>                 |              | Low Significance          | Destruction                                  |

## SIGNIFICANCE WEIGHTINGS FOR EACH POTENTIAL IMPACT

| ASPECT                    | DESCRIPTION     | WEIGHT |
|---------------------------|-----------------|--------|
| <b>Probability</b>        | Improbable      | 1      |
|                           | Probable        | 2      |
|                           | Highly Probable | 4      |
|                           | Definite        | 5      |
| <b>Duration</b>           | Short term      | 1      |
|                           | Medium term     | 3      |
|                           | Long term       | 4      |
|                           | Permanent       | 5      |
| <b>Scale</b>              | Local           | 1      |
|                           | Site            | 2      |
|                           | Regional        | 3      |
| <b>Magnitude/Severity</b> | Low             | 2      |
|                           | Medium          | 6      |
|                           | High            | 8      |

## **IMPACT SIGNIFICANCE**

| <b>Significance</b>                                                                                                                                                                                                                                                                    |        |                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. (S) is formulated by adding the sum of numbers assigned to Extent (E), Duration (D), and Intensity (I) and multiplying the sum by the Probability. $S = (E+D+I) P$ |        |                                                                                                                                                           |
| <30                                                                                                                                                                                                                                                                                    | Low    | Mitigation of impacts is easily achieved where this impact would not have a direct influence on the decision to develop in the area.                      |
| 30-60                                                                                                                                                                                                                                                                                  | Medium | Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated. |
| >60                                                                                                                                                                                                                                                                                    | High   | Significant impacts where there is difficult. The impact must have an influence on the decision process to develop in the area.                           |

# IMPACT ASSESSMENT

**Nature:** During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological material or objects.

|                                       | Without Mitigation                                  | With Mitigation            |
|---------------------------------------|-----------------------------------------------------|----------------------------|
| <b>Extent</b>                         | Regional (3)                                        | Regional(3)                |
| <b>Duration</b>                       | Permanent (5)                                       | Permanent (5)              |
| <b>Magnitude</b>                      | High (8)                                            | High (8)                   |
| <b>Probability</b>                    | Not Probable (2)                                    | Not probable (2)           |
| <b>Significance</b>                   | Low (32)                                            | Low(32)                    |
| <b>Status</b>                         | Negative                                            | Negative                   |
| <b>Reversibility</b>                  | Not irreversible                                    | Not irreversible           |
| <b>Irreversible loss of resources</b> | No resources were recorded                          | No resources were recorded |
| <b>Can impacts be mitigated?</b>      | Yes, a chance find procedure should be implemented. | Yes                        |

**Mitigation:** - Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated.