



HERITAGE IMPACT ASSESSMENT REPORT FOR THE
QONCE ERVEN 522, 523, 524 & 525 DEVELOPMENT
PROJECT, BUFFALO CITY METROPOLITAN
MUNICIPALITY, EASTERN CAPE PROVINCE



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**Heritage Impact Assessment Report for the Qonce Erven 522, 523,
524 & 525 Development Project, Buffalo City Metropolitan
Municipality, Eastern Cape Province**

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DECLARATION

I, Nelius Le Roux Kruger, declare that –

- I act as the independent specialist;
- I am conducting any work and activity relating to the proposed Qonce Erven 522, 523, 524 & 525 Development Project in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA, AMAFA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, 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 declaration are true and correct.

Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations.

Signature of specialist

Company: CES

Date: 25 May 2023

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CES promotes the conservation of sensitive archaeological and heritage resources and therefore uncompromisingly adheres to relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980). In order to ensure best practices and ethics in the examination, conservation and mitigation of archaeological and heritage resources, CES follows the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment as set out by the South African Heritage Resources Agency (SAHRA) and the CRM section of the Association for South African Professional Archaeologists (ASAPA).



This Archaeological Impact Assessment report has been compiled considering the National Environmental Management Act 1998 (NEMA) and Environmental Impact Regulations 2014 as amended, requirements for specialist reports, Appendix 6, as indicated in the NEMA Table below.

Requirements of Appendix 6 – GN R326 EIA Regulations of 7 April 2017	Relevant section in report	Comment where not applicable.
1.(1) (a) (i) Details of the specialist who prepared the report	Page 3, Section 2 and Addendum 2 of Report.	-
(ii) The expertise of that person to compile a specialist report including a curriculum vita	Section 2 and Addendum 2 of Report.	-
(b) A declaration that the person is independent in a form as may be specified by the competent authority	Page iii of the report	-
(c) An indication of the scope of, and the purpose for which, the report was prepared	Section 2: Introduction and Terms of Reference, Section 3: Description of the Project Activity	-
(cA) An indication of the quality and age of base data used for the specialist report	Section 7: The Heritage Baseline Environment	-
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 9: Expected Heritage Impacts of the Project	-
(d) The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 6: Methodology	-
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	Section 6: Methodology	-
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 9: Expected Heritage Impacts of the Project	-
(g) An identification of any areas to be avoided, including buffers	Section 8: Findings and Results	-
(h) A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 8: Findings and Results	-
(i) A description of any assumptions made and any uncertainties or gaps in knowledge;	Section 6.2: Assumptions and Limitations	-
(j) A description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment	Section 9: Statement of Significance and Impact Rating	
(k) Any mitigation measures for inclusion in the EMPr	Section 10: Heritage Management Section 11: Conclusion and Recommendations	
(l) Any conditions for inclusion in the environmental authorisation	N/A	None required
(m) Any monitoring requirements for inclusion in the EMPr or environmental authorisation	Section 10: Heritage Management Section 11: Conclusion and Recommendations	
(n)(i) A reasoned opinion as to whether the proposed activity, activities or portions thereof should be authorised and	Section 1 & Section 9	
(n)(iA) A reasoned opinion regarding the acceptability of the proposed activity or activities; and		
(n)(ii) If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	Section 10: Heritage Management Section 11: Conclusion and Recommendations	-
(o) A description of any consultation process that was undertaken during the course of carrying out the study	N/A	Not applicable. A public consultation process will be conducted as part of the EIA and EMPr process.
(p) A summary and copies if any comments that were received during any consultation process	N/A	Not applicable.
(q) Any other information requested by the competent authority.	N/A	Not applicable.
(2) Where a government notice by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	Section 4: CRM: Legislation, Conservation and Heritage Management	



1 EXECUTIVE SUMMARY

This report details the results of an Heritage Impact Assessment (HIA) study subject to the Environmental Authorisation Application (Basic Assessment) for a Government precinct development project on Erven 522, 523, 524 and 525 in Qonce in the Buffalo City Metropolitan Municipality of the Eastern Cape Province. The proposed project entails the establishment of a precinct development over a surface area of approximately **1.5ha**. The report includes background information on the area's archaeology, its representation in Southern Africa, and the history of the larger area under investigation, survey methodology and results as well as heritage legislation and conservation policies. A copy of the report will be supplied to the Eastern Cape Provincial Heritage Resources Agency (EC-PHRA) and recommendations contained in this document will be reviewed.

Project Title	Qonce Erven 522, 523, 524 & 525 Development Project
Project Location	S32.873222° E27.384785°
1:50 000 Map Sheet	3227CD
Farm Portion / Parcel	Qonce Erven 522, 523, 524 and 525
Magisterial District / Municipal Area	Buffalo City Metropolitan Municipality
Province	Eastern Cape Province

A number of archaeological and historical studies have been conducted along the coastal areas of the Eastern Cape Province around the regional centre of Qonce (King William's Town), most of which infer a varied and rich heritage landscape. The archaeological history of the Eastern Cape Province dates back to about 2 million years and possibly older. The Albany Museum database holds limited information of archaeological sites for the Eastern Cape. However, records are held at several institutions including the University of the Transkei (now Walter Sisulu University), the University of Fort Hare, and the Rock Art Research Institute at the University of the Witwatersrand. Rock art research, mainly conducted by researchers from the Rock Art Research Institute, University of the Witwatersrand, have been conducted around the Barkly East, Ugie, Maclear, Dordrecht and other areas in the Southern Drakensberg escarpment of the north-eastern Cape. Middle Stone Age and Later Stone Age sites have also been excavated and researched during the 1970's. The literature shows evidence of an archaeological heritage that spans from the Early Stone Age, Middle Stone Age to the Later- Stone, as well as evidence of pastoralism and Iron Age farmers. Rock paintings are prolific throughout Southern Drakensberg Mountains. The region is also significant historically as a frontier between hunter-gatherers, pastoralists, Nguni-speaking farming communities and European settlers.

The Qonce Erven 522, 523, 524 & 525 Development Project is located in expanding urban zones of the Qonce CBD and an examination of historical aerial imagery and archive maps indicate that past land-uses for the target properties included residential zones, small-scale farming and urban development. More recently, the properties were used as a stockpiling site during construction of the Metlife Mall and it currently serves as a parking area for Taxis. These aspects combined have resulted in long-term, extensive surface alteration and transformation of the site and **no heritage receptors within the project footprint** were noted during the site assessment. The following observations are made for the proposed Qonce Erven 522, 523, 524 & 525 Development Project in terms of heritage resources management.

- The poorly preserved ruins of a multi-room building (**QON-HP01**) occur along the southern periphery of the project area outside of the proposed footprint. The building was assumedly part of a cluster of residential houses and it was severely damaged and vandalised in the last decade. The site is older than 60 years and generally protected under the National Heritage Resource Act (NHRA 1999) but it is



rated as low significance due to the general poor preservation of the features and the loss of historical context for the building. Even though the building is situated outside the project area, a permit for its alteration or destruction will be required should the site be impacted in any way by the development. Any permit applications can be directed to the **Eastern Cape Provincial Heritage Resources Agency (ECPHRA)** at ayanda.mncwabe-mama@ecsrac.gov.za or (043) 492 1370.

- As no archaeological sites, heritage remains, built environment features or burial sites were located during the site assessment no apparent impact on the heritage landscape is foreseen during the preconstruction, construction and operation phases of the project. However, since cultural (archaeological) layers are usually superficial, subsoil layers and that makes them easily vulnerable to destruction, the likelihood for encountering previously undetected cultural heritage or archaeological material sites as the land clearing process commences, or during construction of infrastructure should be considered. Graves and cemeteries are often scattered around archaeological and historical settlements in the rural areas of the Eastern Cape Province and the probability of informal human burials encountered during the construction phase should thus not be excluded. Site monitoring by an informed ESO and appointed ECO will be required throughout the construction phase of the project in order to avoid the destruction of previously undetected heritage sites. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately.

It is the opinion of the Specialist that the proposed Qonce Erven 522, 523, 524 & 525 Development Project will have a little to negligible negative cumulative impact on the heritage value of the area for the following reasons:

- The absence of significant archaeological resources documented in the project area and in its immediate surroundings implies low-severity short and long-term impacts on the heritage landscape.
- The project is located in urban zones of an expanding town and the transformed nature of the project area and the surroundings means that the heritage significance of this landscape is bound to remain unchanged during the course of construction and operational phases of the project.
- It should be noted that archaeological knowledge and the initiation of research projects into significant archaeological sites often result from Heritage Impact Assessments conducted for developments. Provided that significant archaeological sites are conserved and that appropriate heritage mitigation and management procedures are followed, the cumulative impact of development can be positive.

No heritage resources have been documented in the proposed Qonce Erven 522, 523, 524 and 525 Project footprint area with a low significance heritage receptor occurring along the southern periphery of the site. It is the opinion of the author of this Archaeological Impact Assessment Report that the proposed Qonce Erven 522, 523, 524 and 525 Project will have no impact on archaeological resources, the built environment, the cultural landscape or human burials provided that no subsurface heritage remains are encountered during construction and on the condition that recommendations in this assessment are implemented. The project should be allowed to proceed from a culture resources management perspective subject to approval of findings and recommendations by the relevant Heritage Resources authority (EC-PHRA).

Qonce Erven 522, 523, 524 & 525 Development Project Heritage Site List

Site Code	Coordinate S E	Short Description	Field Rating	Mitigation Action	Project Phase
QON-HP01	S32.874045° E27.385017°	Historical Period Building outside project area (southern periphery)	2a. Low Significance	IF IMPACT IS TO OCCUR: Destruction Permitting: Apply for destruction permit (if impact is to occur).	Pre-Construction
				Close-Out Reporting: ECO review management procedures and ensure that effective measures were implemented.	Decommissioning



This report details the methodology, limitations and recommendations relevant to these heritage areas, as well as areas of proposed development. It should be noted that recommendations and possible mitigation measures are valid for the duration of the development process, and mitigation measures might have to be implemented on additional features of heritage importance not detected during this Phase 1 assessment (e.g. uncovered during the construction process).



NOTATIONS AND TERMS/TERMINOLOGY

Archaeological record: The archaeological record minimally includes all the material remains documented by archaeologists. More comprehensive definitions also include the record of culture history and everything written about the past by archaeologists.

Artefact: Entities whose characteristics result or partially result from human activity. The shape and other characteristics of the artefact are not altered by removal of the surroundings in which they are discovered. In the Southern African context examples of artefacts include potsherds, iron objects, stone tools, beads and hut remains.

Assemblage: A group of artefacts recurring together at a particular time and place, and representing the sum of human activities.

Collective Memory: The shared pool of information (stories, artefacts, symbols, traditions, images) held in the memories of two or more members of a group. As for individual memory, it is construed over time through the interpretation of past events (in the present case, interpreted by the group members). By the virtue of being shared among the group members, it creates a social group identity in the sense that it forms the ties that bind group members together.

Context: An artefact's context usually consists of its immediate *matrix*, its *provenience* and its *association* with other artefacts. When found in *primary context*, the original artefact or structure was undisturbed by natural or human factors until excavation and if in *secondary context*, disturbance or displacement by later ecological action or human activities occurred.

Cultural Heritage Resource: The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural landscape: A cultural landscape refers to a distinctive geographic area with cultural significance.

Cultural Resource Management (CRM): A system of measures for safeguarding the archaeological heritage of a given area, generally applied within the framework of legislation designed to safeguard the past.

Feature: Non-portable artefacts, in other words artefacts that cannot be removed from their surroundings without destroying or altering their original form. Hearths, roads, and storage pits are examples of archaeological features

Impact: A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

Intangible cultural heritage: UNESCO defines "intangible cultural heritage" as the practices, representations, expressions, knowledge and skills recognized by communities, groups and individuals as part of their cultural heritage. It is transmitted from generation to generation inconstant recreation, providing the communities with a sense of identity (Article 2).

Lithic: Stone tools or waste from stone tool manufacturing found on archaeological sites.

Matrix: The material in which an artefact is situated (sediments such as sand, ashy soil, mud, water, etcetera). The matrix may be of natural origin or human-made.

Midden: Refuse that accumulates in a concentrated heap.

Microlith: A small stone tool, typically knapped of flint or chert, usually about three centimetres long or less.

Monolith: A geological feature such as a large rock, consisting of a single massive stone or rock, or a single piece of rock placed as, or within, a monument or site.

Provenience: Provenience is the three-dimensional (horizontal and vertical) position in which artefacts are found. Fundamental to ascertaining the provenience of an artefact is *association*, the co-occurrence of an artefact with other archaeological remains; and *superposition*, the principle whereby artefacts in lower levels of a matrix were deposited before the artefacts found in the layers above them, and are therefore older.

Random Sampling: A probabilistic sampling strategy whereby randomly selected sample blocks in an area are surveyed. These are fixed by drawing coordinates of the sample blocks from a table of random numbers.

Scoping Assessment: The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an impact assessment. The main purpose is to focus the impact assessment on a manageable number of important questions on which decision making is expected to focus and to ensure that only key issues and reasonable alternatives are examined. The outcome of the scoping process is a Scoping Report that includes issues raised during the scoping process, appropriate responses and, where required, terms of reference for specialist involvement.

Site (Archaeological): A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity. These include surface sites, caves and rock shelters, larger open-air sites, sealed sites (deposits) and river deposits. Common functions of archaeological sites include living or habitation sites, kill sites, ceremonial sites, burial sites, trading, quarry, and art sites,

Stratigraphy: This principle examines and describes the observable layers of sediments and the arrangement of strata in deposits

Systematic Sampling: A probabilistic sampling strategy whereby a grid of sample blocks is set up over the survey area and each of these blocks is equally spaced and searched.

Trigger: A particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an *issue* and/or potentially significant *impact* associated with that proposed development that may require specialist input. Legal requirements of existing and future legislation may also trigger the need for specialist involvement.



Abbreviation	Description
ASAPA	Association for South African Professional Archaeologists
AIA	Archaeological Impact Assessment
BP	Before Present
BCE	Before Common Era
BGG	Burial Grounds and Graves
CRM	Culture Resources Management
EIA	Early Iron Age (also Early Farmer Period)
EIA	Environmental Impact Assessment
EFP	Early Farmer Period (also Early Iron Age)
ESA	Earlier Stone Age
GIS	Geographic Information Systems
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
K2/Map	K2/Mapungubwe Period
LFP	Later Farmer Period (also Later Iron Age)
LIA	Later Iron Age (also Later Farmer Period)
LSA	Later Stone Age
MIA	Middle Iron Age (also Early later Farmer Period)
MRA	Mining Right Area
MSA	Middle Stone Age
NHRA	National Heritage Resources Act No.25 of 1999, Section 35
PFS	Pre-Feasibility Study
PHRA	Provincial Heritage Resources Authorities
SAFA	Society for Africanist Archaeologists
EC-PHRA	Eastern Cape Provincial Heritage Resources Agency
YCE	Years before Common Era (Present)



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2 INTRODUCTION AND TERMS OF REFERENCE

CES was commissioned to conduct a Heritage Impact Assessment (HIA) study for the proposed Qonce Erven 522, 523, 524 & 525 Development Project in the Eastern Cape Province. The rationale of this AIA is to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance in previously unstudied areas; to consider the impact of the proposed project on such heritage resources, and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features.

Heritage specialist input into the environmental assessment process is essential to ensure that, through the management of change, developments still conserve our heritage resources. It is also a legal requirement for certain development categories which may have an impact on heritage resources. Thus, EIAs should always include an assessment of heritage resources. The heritage component of the EIA is provided for in the **National Environmental Management Act, (Act 107 of 1998)** and endorsed by section 38 of the **National Heritage Resources Act (NHRA - Act 25 of 1999)**. In addition, the NHRA protects all structures and features older than 60 years, archaeological sites and material and graves as well as burial sites. The objective of this legislation is to ensure that developers implement measures to limit the potentially negative effects that the development could have on heritage resources. Based hereon, this project functioned according to the following **terms of reference** for heritage specialist input:

- Provide a detailed description of all archaeological artefacts, structures (including graves) and settlements which may be affected, if any.
- Assess the nature and degree of significance of such resources within the area.
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess and rate any possible impact on the archaeological and historical remains within the area emanating from the proposed development activities.
- Propose possible heritage management measures provided that such action is necessitated by the development.
- Liaise and consult with the Eastern Cape Provincial Heritage Resources Agency (EC-PHRA). A Notification of Intent to Develop (NID) will be submitted to EC-PHRA at the soonest opportunity.

As archaeologist for CES, Mr Neels Kruger acted as field director and specialist for this project. He was responsible for the assimilation of all information, the compilation of the final consolidated AIA report and recommendations in terms of heritage resources on the demarcated project areas. Mr Kruger is an accredited archaeologist and Culture Resources Management (CRM) practitioner with the Association of South African Professional Archaeologists (ASAPA), a member of the Society for Africanist Archaeologists (SAFA) and the Pan African Archaeological Association (PAA). Please refer to Addendum 2 for a Specialist CV.



3 DESCRIPTION OF THE ACTIVITY

3.1 PROJECT DESCRIPTION

AGES Omega (Pty) Ltd (Pty) Ltd. requested the Heritage Unit of CES to conduct a Phase 1 Heritage Impact Assessment (HIA) for a residential development on Qonce Erven 522, 523, 524 and 525 in the Buffalo City Metropolitan Municipality, Eastern Cape Province (hereafter referred to as the “Qonce Erven 522, 523, 524 & 525 Development”). The project will area covers a surface area of approximately **1.5ha**.

The Department of Public Works and Infrastructure (DPWI) provides accommodation to various User Departments that are located in Qonce in the Eastern Cape Province and has established the need to plan and develop a Government Precinct in the town of Qonce. Erven 522, 523, 524 and 525, Qonce (King William’s Town) are strategically located in the Qonce town centre and are currently vacant. It is the intention to facilitate the highest and best use of the site to maximise on the development potential.

The project properties are registered as follows:

PROPERTY DESCRIPTION	TITLE DEED NUMBER	EXTENT (m ²)
Erf 522, King William’s Town	T2056/1996	3851
Erf 523, King William’s Town	T2056/1996	4543
Erf 524, King William’s Town	T2056/1996	2062
Erf 525, King William’s Town	T2056/1996	4356
	TOTAL	14812

The site is strategically located in the Qonce town centre and is currently vacant being used as a parking area for taxi’s/vehicles. The site has been predominantly transformed as a result of past land use practices – for example the site was used as a stockpiling site during construction of the Mall and as a temporary taxi rank while the formal taxi rank was under construction.

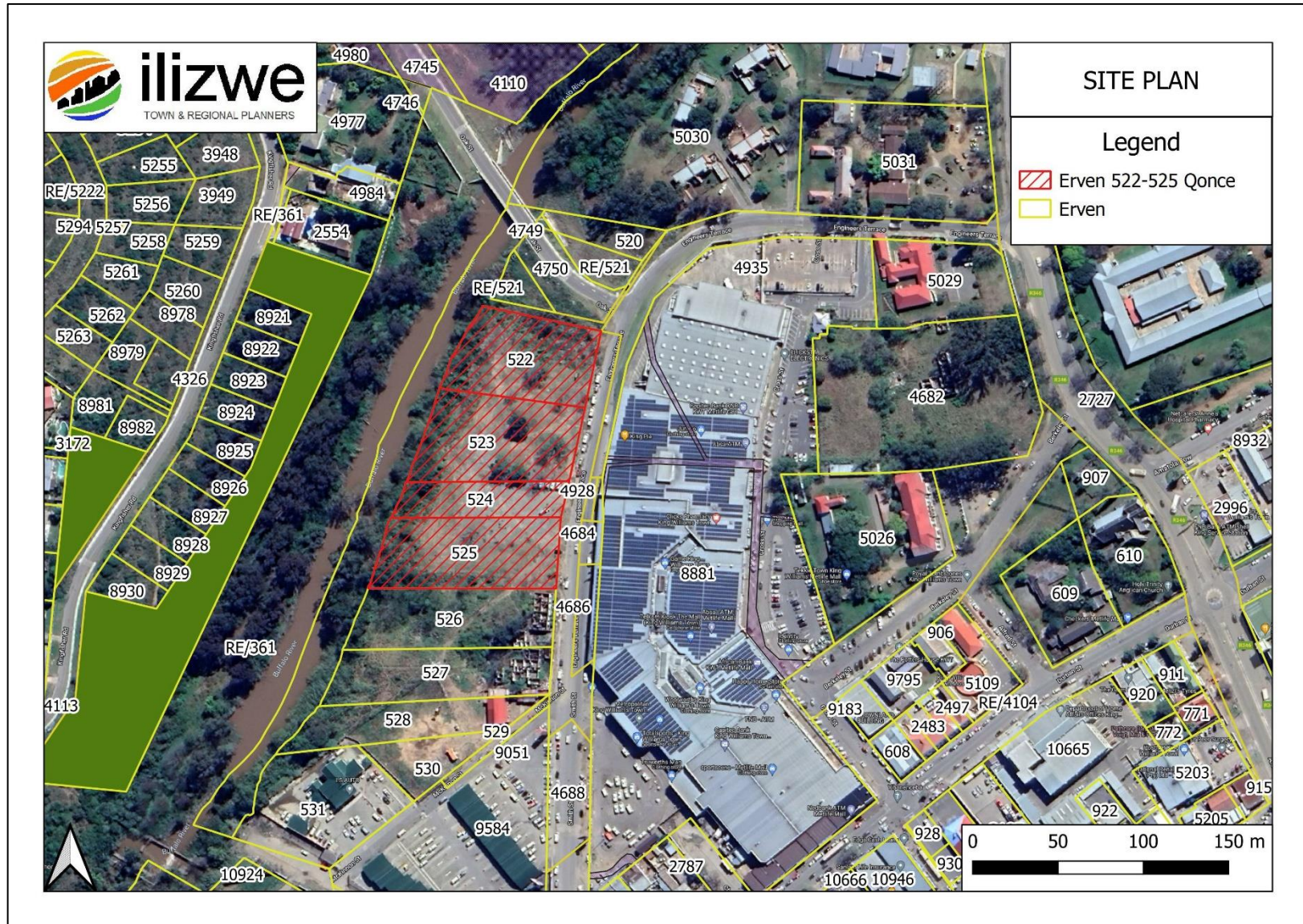


Figure 3-1: Map indicating the properties proposed for the Qonce Erven 522, 523, 524 & 525 Development Project.



4 LEGAL BASIS OF THE ACTIVITY

4.1 OVERVIEW

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

4.2 LEGISLATION FOR THE PROTECTION OF HERITAGE SITES

The South African Heritage Resources Agency (SAHRA) and its provincial offices aim to conserve and control the management, research, alteration and destruction of cultural resources of South Africa. It is therefore vitally important to adhere to heritage resource legislation at all times.

a. National Heritage Resources Act No 25 of 1999, section 35

According to the National Heritage Resources Act No 25 of 1999 (section 35) the following features are protected as cultural heritage resources:

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

In addition, the national estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and paleontological sites
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery



- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

With regards to activities and work on archaeological and heritage sites this Act states that:

“No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority.” (34. [1] 1999:58)

and

“No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites. (35. [4] 1999:58).”*

and

“No person may, without a permit issued by SAHRA or a provincial heritage resources agency-

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority;*
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60).”*

b. Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925

Graves and burial grounds are commonly divided into the following subsets:

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



f. human remains

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments.

c. National Heritage Resources Act No 25 of 1999, section 35

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made. Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied

4.3 BACKGROUND TO HERITAGE IMPACT ASSESSMENTS

South Africa's unique and non-renewable archaeological and palaeontological heritage sites are 'generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. Heritage sites are frequently threatened by development projects and both the environmental and heritage legislation require impact assessments (HIAs & AIAs) that identify all heritage resources in areas to be developed. Particularly, these assessments are required to make recommendations for protection or mitigation of the impact of the sites. HIAs and AIAs should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources including archaeological and palaeontological sites that might occur in areas of developed and (b) make recommendations for protection or mitigation of the impact on the sites.

A detailed guideline of statutory terms and requirements is supplied in Addendum 3.



5 REGIONAL CONTEXT

5.1 LOCATION

The proposed Qonce Erven 522, 523, 524 & 525 Development Project occurs on Qonce Erven 522, 523, 524 and 525 located to the north-western edge of the Qonce town centre and adjacent to the Buffalo River to the west. The erven are bound by properties to the north and south (Erf 526, Qonce (King William's Town)), Engineers Terrace to the east and the Buffalo River to the west.

The study area appears on 1:50000 map sheet 3227CD (see Figure 5-1) and coordinates for the project area are as follows:

- **Relative Midpoint:** S32.873222° E27.384785°

5.2 RECEIVING ENVIRONMENT

The project area is situated on the inland coastal plains of the Eastern Cape grasslands south of the Drakensberg. The ecological landscape is defined as a combination of mixed grasslands and forest / scrub forest, typically dominated by mixed grassveld and forests at differing altitudes. The annual rainfall ranges between 1150 to over 1300mm per annum. The geology of the larger region is constituted by mudstones and sandstones of the Beaufort group and towards the coast, shales, mudstones and sandstones of the Ecca group, with exposures of dolerite intrusions mostly in the higher lying areas, are found. Soils in the area are moderate to deep and vary between sandy loams in the upper half to clayey loam in the downstream half. Coastal landforms include rocky platforms, sandy beaches, sub-tidal rocky reefs and sub-tidal sandy benthos. Considerable sections of the coast comprise stabilised dunes, which are sensitive to disturbance and unsuitable for the construction of roads and tourism infrastructure. The East London area is underlain by a horizontally orientated formation forming part of the Karoo Sequence. The formation consists mainly of the Ecca Group (shales, mudstones and sandstones) and but the Beaufort Group (bluish-grey fine-grained sandstone and bluish grey, greenish grey or reddish mudstone) occurs in the south west. Dolerite sheets are found throughout the area. Soil types range from deep sandy loam to loamy clay soil over eroded shales. The grasslands in the area are similar to the sourveld grasslands found across the southern parts of the Wild Coast. The Buffalo River passes the project area to the west.

5.3 SITE DESCRIPTION

The project area is situated along gradually rolling hills and plains within urban zones of Qonce. The larger general landscape is vegetated with grasslands, pioneering species, hilltop vegetation as well as riparian vegetation along the Buffalo River. The project area is situated close to the Qonce CBD and the surrounding landscape has been transformed by urbanization and town development in past years but vegetation remains intact along rivers and water courses, particularly the Buffalo River which forms the western boundary of the project site. For the largest part, the project footprint has been cleared of vegetation where it was used as stockpiling site during construction of the Metlife Mall and a Minibus Taxi rank was later established and a number of vendor stands operate from here. Current land uses of the site and its surrounds are:

- Metlife Mall to the east;
- Vacant land and refuse dumping to the north and within the project area;
- Land with the ruins of a Historical Period Building along the southern boundary of the project area;
- Buffalo River to the west;
- Taxi rank across much of the project area and to the south.

The area to the east include those uses that are typical to the CBD of a town, i.e. offices, restaurants, retail which include the shopping mall, parking, filling stations, banks and government departments, i.e. SAPS, the operational centre of the Department of Home Affairs, the Magistrate Court, offices of the Department of Correctional Services and a Technical and Vocational Education and Training (TVET) College Campus.



Figure 5-1: View of general surroundings in the project area along the Buffalo River (left) and an area cleared for Taxi parking (right).



Figure 5-2: View of the Taxi parking area in the project area.



Figure 5-3: View of refuse dumping in a northern section of the project area.



Figure 5-4: View of cleared vegetation (left) and Engineers Terrace along the eastern boundary of the project area (right).

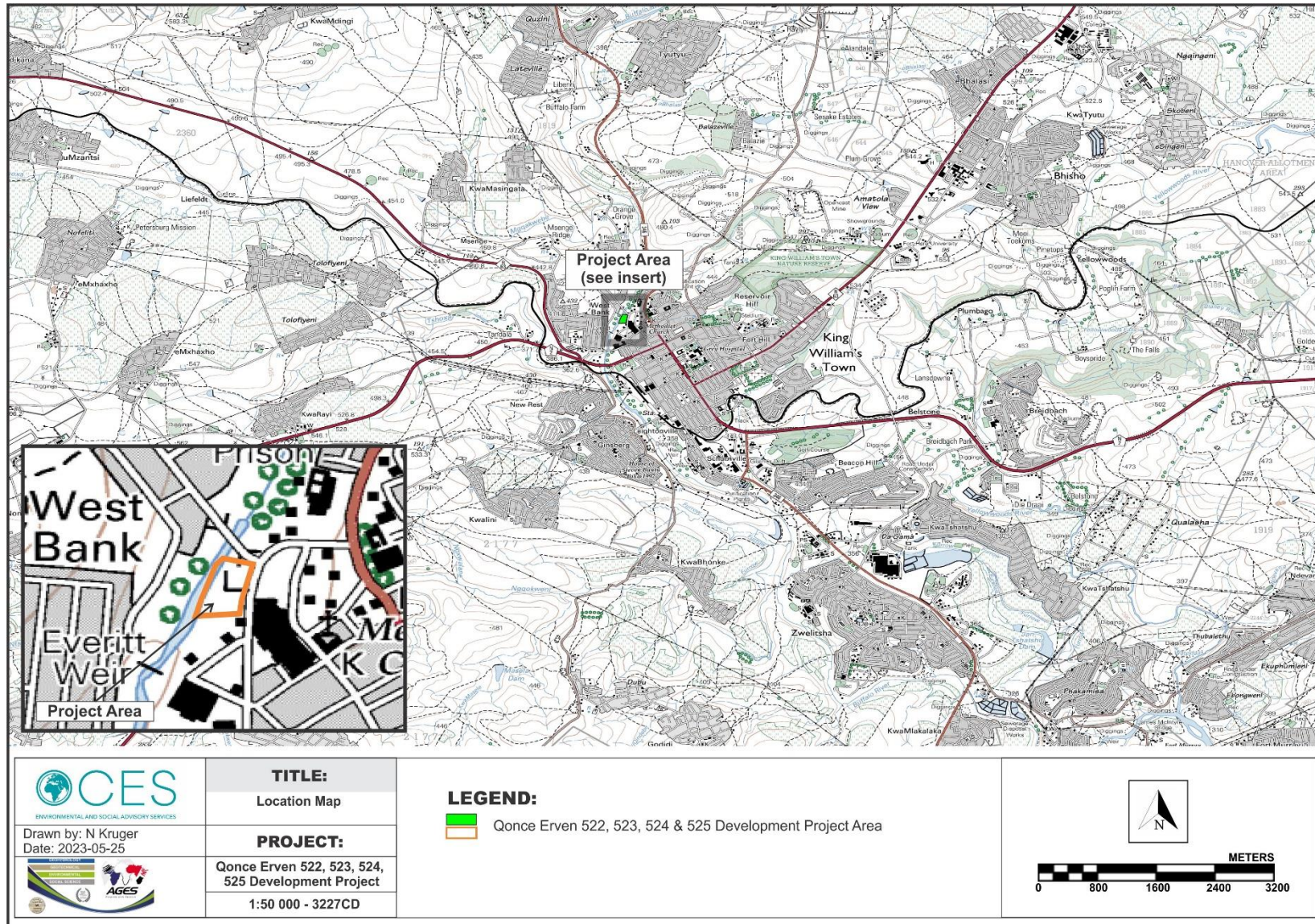


Figure 5-5: Topographical Map providing a regional context for the proposed Qonce Erven 522, 523, 524 & 525 Development Project (sheet 3227CD).

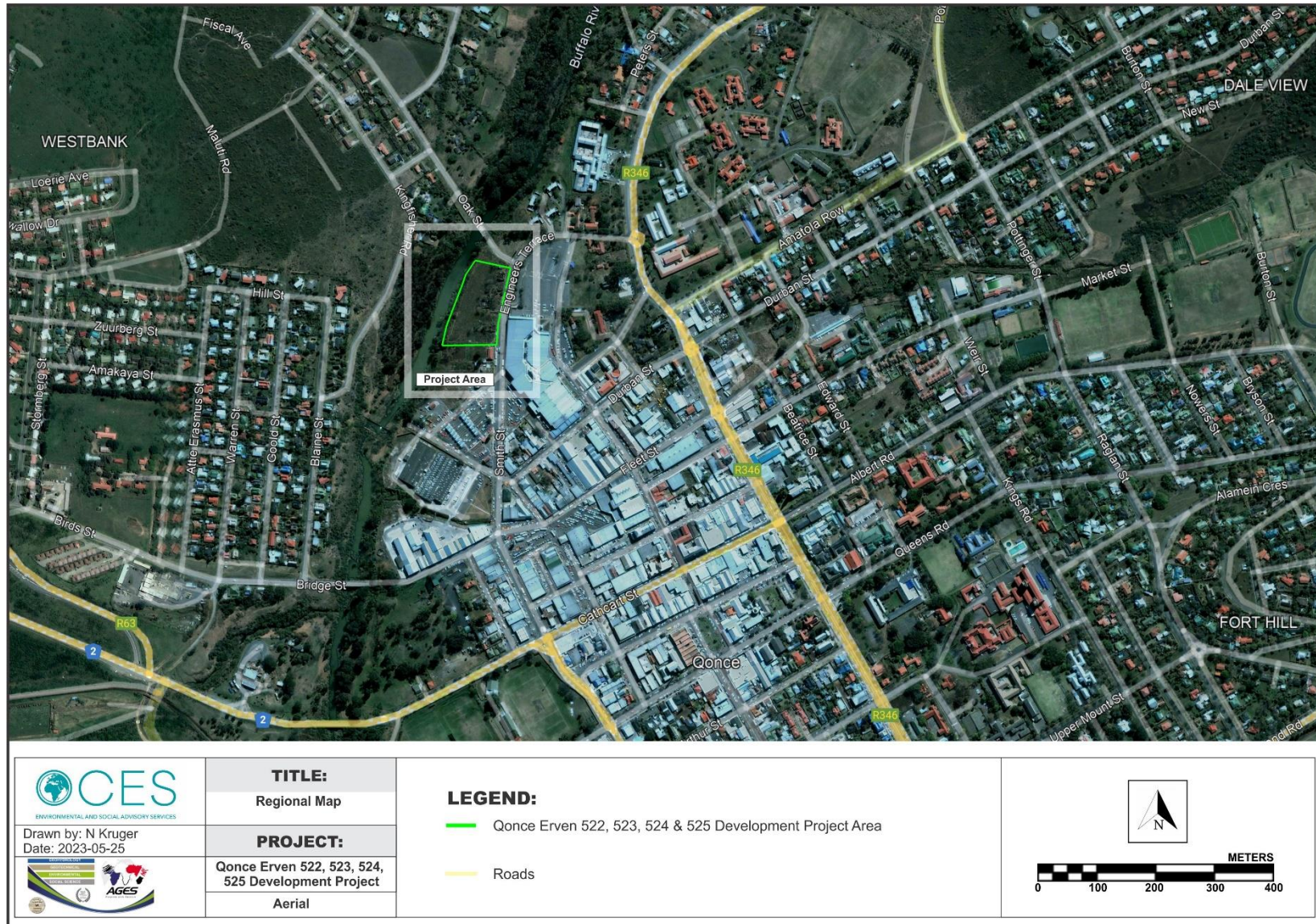


Figure 5-6: Aerial map providing a regional context for the proposed Qonce Erven 522, 523, 524 & 525 Development Project.



Figure 5-7: Aerial map indicating current land use and surface features in the project area.



6 METHODOLOGY

6.1 SOURCES OF INFORMATION

6.1.1 Desktop Work (Literature Review, Remote Sensing)

The larger landscape of the Eastern Cape has been relatively well documented in terms of its archaeology and history. A desktop study was prepared in order to contextualize the proposed project within a larger historical milieu. Numerous academic papers and research articles supplied a historical context for the proposed project and archival sources, aerial photographs, historical maps and local histories were used to create a baseline of the landscape's heritage. In addition, the study drew on available unpublished Heritage Assessment reports to give a comprehensive representation of known sites in the study area.

6.1.2 Remote Sensing

Aerial photography is often employed to locate and study archaeological sites, particularly where larger scale area surveys are performed. The site assessment of the project property relied heavily on this method to assist the challenging foot and automotive site survey. Here, depressions, variation in vegetation, soil marks and landmarks were examined and specific attention was given to shadow sites (shadows of walls or earthworks which are visible early or late in the day), crop mark sites (crop mark sites are visible because disturbances beneath crops cause variations in their height, vigour and type) and soil marks (e.g. differently coloured or textured soil (soil marks) might indicate ploughed-out burial mounds). Attention was also given to moisture differences, as prolonged dampening of soil as a result of precipitation frequently occurs over walls or embankments. In addition, historical aerial photos obtained during the archival search were scrutinized and features that were regarded as important in terms of heritage value were identified and if they were located within the boundaries of the project area, they were physically visited in an effort to determine whether they still exist and in order to assess their current condition and significance. By superimposing high frequency aerial photographs with images generated with Google Earth as well as historical aerial imagery, potential sensitive areas were subsequently identified, geo-referenced and transferred to a handheld GPS device. These areas served as reference points from where further vehicular and pedestrian surveys were carried out. Similar to the aerial survey, the site assessment of the target farm relied heavily on archive and more recent map renderings of the property to assist the challenging foot and automotive site survey where historical and current maps of the project area were examined. By merging data obtained from the desktop study and the aerial survey, sites and areas of possible heritage potential were plotted on these maps of the larger area using GIS software. These maps were then superimposed on high-definition aerial representations in order to graphically demonstrate the geographical locations and distribution of potentially sensitive landscapes.

6.1.3 Site Surveys

Archaeological survey implies the systematic procedure of the identification of archaeological sites. An archaeological survey of the Qonce Erven 522, 523, 524 & 525 Development Project area was conducted over a one-day period in March 2023. The process encompassed a field survey in accordance with standard archaeological practice by which heritage resources are observed and documented. Particular focus was placed on GPS reference points identified during the aerial and mapping survey. Where possible, random spot checks were made and potentially sensitive heritage areas were investigated. Using a Garmin GPS, the survey was tracked and general surroundings were photographed with a Samsung Digital camera. Real time aerial orientation, by means of a mobile Google Earth application was also employed to investigate possible disturbed areas during the survey.



6.2 ASSUMPTIONS AND LIMITATIONS

The site survey for the Qonce Erven 522, 523, 524 & 525 Development Project AIA proved to be constrained and the investigation primarily focused around areas tentatively identified as sensitive and of high heritage probability (i.e. those noted during the mapping and aerial survey) as well as areas of potential high human settlement catchment. In summary, the following constraints were encountered during the site survey:

- The surrounding vegetation in the project area mostly comprised out of grassland, occasional trees and riparian vegetation. This resulted in visibility and movement constraints in certain portions of the project area.
- The project area is currently an operational Taxi Rank with vagrants occupying certain portions of the area. This raised safety concerns which, in turn constrained free movement on the site.
- Cognisant of the constraints noted above, it should be stated that the possibility exists that individual sites could be missed due to the localised nature of some heritage remains as well as the possible presence of sub-surface archaeology. Therefore, maintaining due cognisance of the integrity and accuracy of the archaeological survey, it should be stated that the heritage resources identified during the study do not necessarily represent all the heritage resources present in the project area. The subterranean nature of some archaeological sites, dense vegetation cover and visibility constraints sometimes distort heritage representations and any additional heritage resources located during consequent development phases must be reported to the Heritage Resources Authority or an archaeological specialist.



7 THE HERITAGE BASELINE ENVIRONMENT

7.1 ARCHAEOLOGY AND THE CULTURAL LANDSCAPE

Archaeology in Southern and Central Africa is typically divided into two main fields of study, the **Stone Age** and the **Iron Age** or **Farmer Period**. The following table provides a concise outline of the chronological sequence of periods, events, cultural groups and material expressions in Southern African pre-history and history.

Period	Epoch	Associated cultural groups	Typical Material Expressions
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominins: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.
Early Iron Age / Early Farmer Period 300 – 900 AD (commonly restricted to the interior and north-east coastal areas of Central and Southern Africa)	Holocene	First Bantu-speaking groups	Typically distinct ceramics, bead ware, iron objects, grinding stones.
Middle Iron Age (Mapungubwe / K2) / early Later Farmer Period 900 – 1350 AD (commonly restricted to the interior and north-east coastal areas of Southern Africa)	Holocene	Bantu-speaking groups, ancestors of present-day groups	Typically distinct ceramics, bead ware and iron / gold / copper objects, trade goods and grinding stones.
Late Iron Age / Later Farmer Period 1400 AD -1850 AD	Holocene	Various Bantu-speaking groups including Venda, Thonga, Sotho-Tswana and Zulu	Distinct ceramics, grinding stones, iron objects, trade objects, remains of iron smelting activities including iron smelting furnace, iron slag and residue as well as iron ore.
Historical / Colonial Period ±1850 AD – present	Holocene	Various Bantu-speaking groups as well as European farmers, traders, settlers and explorers	Remains of historical structures e.g. homesteads, missionary schools etc. as well as, glass, porcelain, metal and ceramics.

The archaeological history of the Eastern Cape Province dates back to about 2 million years and possibly older. Several archaeological sites have been recorded in the landscape around Qonce (King William's Town). The Albany Museum database holds limited information of archaeological sites for the north Eastern Cape, however,



records are held at several institutions including the University of the Transkei (now Walter Sisulu University), the University of Fort Hare, and the Rock Art Research Institute at the University of the Witwatersrand. Rock art research, mainly conducted by researchers from the Rock Art Research Institute, University of the Witwatersrand, have been conducted around the Barkly East, Ugie, Maclear, Dordrecht and other areas in the Southern Drakensberg escarpment of the north-eastern Cape. Middle Stone Age and Later Stone Age sites have also been excavated and researched during the 1970's. The literature shows evidence of an archaeological heritage that spans from the Early Stone Age, Middle Stone Age to the Later- Stone, as well as evidence of pastoralism and Iron Age farmers. Rock paintings are prolific throughout Southern Drakensberg Mountains. The region is also significant historically as a frontier between hunter-gatherers, pastoralists, Nguni-speaking farming communities and European settlers.

7.1.1 Early History and the Stone Ages

According to archaeological research, the earliest ancestors of modern humans emerged some two to three million years ago. The remains of Australopithecine and *Homo habilis* have been found in dolomite caves and underground dwellings at Sterkfontein and Swartkrans near Krugersdorp. *Homo habilis*, one of the Early Stone Age hominids, is associated with Oldowan artefacts, which include crude implements manufactured from large pebbles. The Acheulian industrial complex replaced the Oldowan industrial complex during the Early Stone Age. This phase of human existence was widely distributed across South Africa and is associated with *Homo erectus*, who manufactured hand axes and cleavers from as early as one and a half million years ago. Oldowan and Acheulian artefacts were also found four to five decades ago in some of the older gravels (ancient river beds and terraces) of the Vaal River and the Klip River in Vereeniging. The earliest ancestors of modern man may therefore have roamed the Vaal valley at the same time that their contemporaries occupied some of the dolomite caves near Krugersdorp. Middle Stone Age sites dating from as early as two hundred thousand years ago have been found all over South Africa. Middle Stone Age hunter-gatherer bands also lived and hunted in the Orange and Vaal River valleys. These people, who probably looked like modern humans, occupied campsites near water but also used caves as dwellings. They manufactured a wide range of stone tools, including blades and points that may have had long wooden sticks as hafts and were used as spears. The Late Stone Age commenced twenty thousand years ago or somewhat earlier. The various types of Later Stone Age industries scattered across the country are associated with the historical San and Khoi-Khoi people. The San were renowned as formidable hunter-gatherers, while the Khoi-Khoi herded cattle and small stock during the last two thousand years. Late Stone Age people manufactured tools that were small but highly effective, such as arrow heads and knives.

A few important Early Stone Age (ESA) sites are known from a number of Ciskei sites including Middeldrift commonage and wide flood plain along the Keiskamma River, streams and erosion channels show Early Stone Age material on silcrete sandstone, from within the fluvial deposits (Derricourt 1973). ESA handaxes were documented and recorded on a site near Indwe (Smith 2010). ESA material has been reported in other sites in the Transkei (Derricourt 1977; Feely 1987). Apart from stone artefacts, the ESA sites in the Transkei have produced very little as regards other archaeological remains. This has made it difficult to make inferences pointing to economical dynamics of the ESA people in this part of the world (Mazel 1989). Although Middle Stone Age (MSA) artefacts occur throughout the Eastern Cape, the most well-known MSA sites include the type-site for the Howiesons Poort stone tool industry, Howiesons Poort rock shelter, situated close to Grahamstown and Klasies River Mouth Cave, situated along the Tsitsikamma coast. MSA sites are located both at the coast and in the interior across southern Africa. MSA people occupied the Southern Drakensberg area before 29 000 BP (Opperman 1996) until between 22 5000 BP and 20 9000 BP (Opperman & Heydenrych 1990). Strathalan Cave B is situated in the foothills of the Southern Drakensberg range approximately 10 km north-east of Maclear contained a terminal MSA continuous occupation from between 28 000 to about 22 000 years ago. The site deposit revealed a sequence of Middle Stone Age occupation floors characterized by the presence of grass bedding materials. The stone artefact collection included slender blades and wooden tools were also used. The



subsistence system was based on the hunting of medium-large antelopes and the gathering of plant foods (Opperman & Heydenrych 1990; Opperman 1992). Surface scatters of MSA stone artefact industries occur widely as in the former homelands of the Ciskei and Transkei (Derricourt 1973). No known ESA sites have been reported in studies around the project area. Anderson (2011a) documented both MSA and LSA artefact scatters at the Ikwezi Solar Energy study site near East London. His discovery of MSA artefact occurrences are in accordance with MSA hominid evidence: The Nahoon footprints site, where hominid / human footprints dating to 200,000BP have been discovered, is situated approximately 20km north-east of the study site, while of the earliest *Homo sapiens*, or modern human remains, dating to 125,000BP, are known from Klasies River Mouth along the south coast of the Eastern Cape.

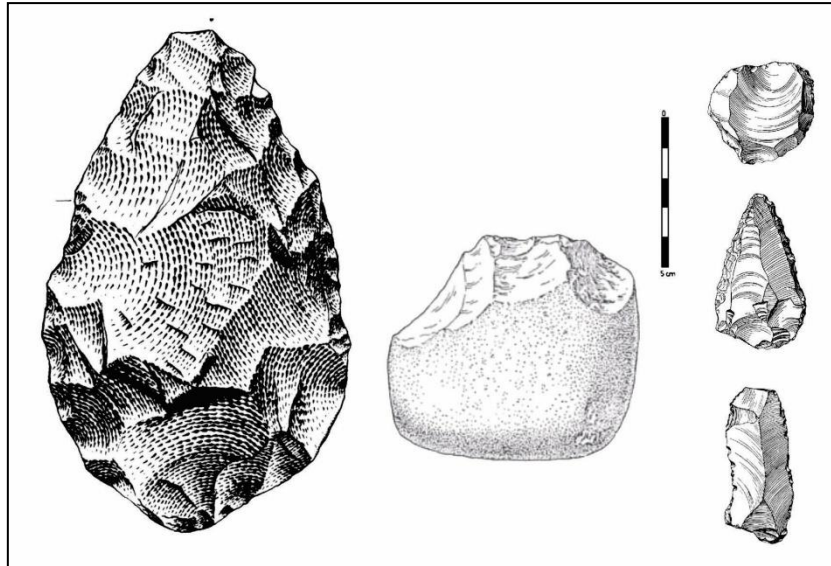


Figure 7-1: Typical ESA handaxe (left) and cleaver (center). To the right is a MSA scraper (right, top), point (right, middle) and blade (right, bottom).

7.1.2 The Later Stone Age (LSA) and Rock Art

Later Stone Age (LSA) sites occur both at the coast and inland as caves deposits, rock shelters, open sites and shell deposits. The majority of LSA archaeological sites in the Eastern Cape area would date from the past 10 000 years where San hunter-gatherers inhabited the landscape living in rock shelters and caves as well as on the open landscape. These latter sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The Southern Drakensberg was occupied by hunter-gatherers before 10 000 BP (Opperman 1987) but was subsequently abandoned in the Holocene after ca. 6 000 BP, only to be re-occupied by 3 000 BP (Tusenius 1989). Ecological evidence suggests that the southern Drakensberg may have been too dry to support the animals and plants needed for the existence of hunter-gatherer people between 6 000 and some time before 3 000 BP (Tusenius 1989). The north-eastern Cape forms a link between the better watered eastern half of South Africa and the drier west. The wettest conditions apparently existed around 2700 BP, probably correlating with an increase in human occupation in the Southern Drakensberg following the possible abandonment of that area during the dry phase(s) of preceding millennia (Rosen et al. 1999). The succession of stone artefact Industries within the LSA of the Drakensberg region of the north-eastern Cape demonstrates that the resources of this area, which is characterized by a steep ecological gradient, were consistently exploited throughout end Pleistocene and Holocene following the amelioration of conditions after the cold maximum of the Late Pleistocene. The culture stratigraphic sequence is very comparable to that recorded in Lesotho, the middle Orange River basin and the southern and Eastern Cape (Opperman 1982).



The renowned San rock paintings of the Drakensberg region also belongs to the LSA period- although the majority were made between 4000 years ago and about 120 years ago. Rock Art can be in the form of rock paintings or rock engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa and are prolific in the Southern Drakensberg, north-eastern Cape extending the entire Drakensberg range into KwaZulu-Natal and Lesotho. Rock engravings are limited to the Karoo and Northern Cape Regions and do not generally occur within the north Eastern Cape region and former Transkei region. Rock art research within the Southern Drakensberg has been conducted by several researchers and students from the Rock Art Research Institute, University of the Witwatersrand, over a period of 25 years, with a well-established database of site from Maclear, Tsolo, Barkly East, Ugie, Dordrecht and the wider region and extent of the Drakensberg range and Maluti Mountains. The South African Rock Art Database established by the Rock Art Research Institute is a useful source for rock art site information across southern Africa.

7.1.3 Pastoralism in the Eastern Cape

As noted above, Khoekhoe pastoralists or herders entered southern Africa about 2000 years ago, with domestic animals such as fat-tailed sheep and goats, travelling through the south towards the coast. Hunter-gatherer and herder sites occur widely in the Eastern Cape. It is sometimes difficult to distinguish between hunter-gatherer and herder sites, because the former may have acquired stock through theft or herder clientship and the latter largely relied on hunting and gathering to supplement pastoral resources. Both groups collected shellfish and used other food sources from the sea, and both groups hunted and gathered plant food. Their economic systems were directed by the accumulation of wealth in domestic stock numbers and their political make-up was more hierarchical than that of the hunter-gatherers. The most significant Khoekhoe pastoralist sites in the Eastern Cape include Scott's Cave near Patensie (Deacon 1967), Goedgeloof shell midden along the St. Francis coast (Binneman 2007) and Oakleigh rock shelter near Queenstown (Derricourt 1977). Often, these archaeological sites are found close to the banks of large streams and rivers. Excavations at sites indicate that shellfish and marine animals, and in particular seals, specifically formed a major part of their diet. The intensive utilization of shellfish manifests in the archaeological record through hundreds of shell middens (large piles of marine shell) dating to the terminal Pleistocene and Holocene that litter the coastal areas of southern Africa. These were campsites of San, Khoisan and Bantu-speakers who lived along the immediate coast. Human remains are frequently found in the middens, mixed with shell, other food remains and cultural material. A large number of shell middens were situated east of Coega River Mouth and numerous middens, ceramic pot sherds (from Later Stone Age Khoekhoen pastoralist origin - last 2 000 years) and other archaeological material, occur between the Coega and Sunday's River Mouths. These remains date mainly from Holocene Later Stone Age (last 10 000 years). Human remains have also been found in the dunes along the coast. Mega-middens which accumulated in coastal and inland areas probably represent alternative seasonal food resources and the shellfish species from middens reflect the species available in the immediate vicinity and also provide information on the environment. Inland shell middens are also found in the Eastern Cape and these shell accumulations date to the last 3000 years. The existence of these features implies the use of alternative food sources as a result of the spread of pastoralists and Iron Age people (Deacon 1984b). Various researchers have observed that the occurrence of seasonally restricted food remains in archaeological deposits could be linked to historically known seasonal movements by the early Khoisan and Khoekhoen hunters and herders of the Cape. In other places, those Khoi who had lost their stock (to drought, disease or raiders), as well as San who had none, may have subsisted mainly or entirely on seafood, but for the rest pastoralism, involving cattle and perhaps fat-tailed sheep, was the principal focus of subsistence, accompanied by a few crops in the fertile river valleys (Elphick 1977). This pattern of subsistence was continued - with different emphases and eventually on a larger scale - by those who succeeded the Khoi on this coast, the Cape Nguni, or Xhosa. By the 16th century, the Khoi peoples of the Wild Coast had been largely displaced or absorbed by Nguni speakers (Peires 1976). Evidence of LSA (including pastoralist) occupation of the East London area seems fairly ample: The presence of deflated coastal shell middens were reported on by Binneman & Webley (1996). Anderson (2009) identified no less than 7 LSA shell midden sites during his East London IDZ survey. In addition an ephemeral shell scatter situated approximately 2.5-3km inland, on the banks of the Buffalo River, was reported on (Van Ryneveld 2010).



Figure 7-2: Large shell midden off the coast of southern Africa.

7.1.4 Iron Age Farmers

The beginnings of the Iron Age (Farmer Period) in southern Africa are associated with the arrival of a new Bantu speaking population group at around the third century AD. These newcomers introduced a new way of life into areas that were occupied by Later Stone Age hunter-gatherers and Khoekhoe herders. Distinctive features of the Iron Age are a settled village life, food production (agriculture and animal husbandry), metallurgy (the mining, smelting and working of iron, copper and gold) and the manufacture of pottery. Iron Age farming communities generally preferred to occupy river valleys within the eastern half of southern Africa owing to the summer-rainfall climate that was conducive for growing millet and sorghum. According to Huffman (2007) an eastern migration stream, known as the Chifumbaze Complex spread southwards from East Africa south into southern Africa during the period of about AD 200–300 where several KwaZulu-Natal and north-Eastern Cape sites were occupied. Relatively little research has been conducted on the archaeology of later farmer communities of the Eastern Cape and adjacent areas. According to research in adjacent parts of South Africa, there was little or no settlement in the dry high-altitude grasslands of the north-western parts of the Eastern Cape and Lesotho until after AD 1600 (e.g. Walton 1956; Maggs 1976; Hall 1990; Mitchell 2002). A few important Eastern Cape Early Iron Age Sites (EIA) sites include Kulubele situated in the Kei River Valley near Khomga (Binneman 1996), Ntsitsana situated in the interior Transkei, 70 km west of the coast, along the Mzimvubu River (Prins & Granger 1993), and Canasta Place situated on the west bank of the Buffalo River (Nogwaza 1994). Previous investigations into the EIA in the Transkei and Ciskei include work at Buffalo River Mouth (Wells 1934; Laidler 1935), at Chalumna River Mouth (Derricourt 1977) and additional research by Feely (1987) and Prins (1989). In addition, evidence of numerous Early Iron Age (EIA) sites or material occurs in the area surrounding Mthatha and the Eastern Cape (Feely & Bell-Cross 2011). Evidence in the form of thick-walled well-decorated pot sherds are present along other parts of the Transkei coast as is evident from sites that were excavated at Mpame River Mouth (Cronin 1982) and just west of East London (Nongwaza 1994). Research in the adjacent Kei River Valley area indicates that the first mixed farmers were already settled in the Eastern Cape region between A.D. 600 -700 (Binneman 1994, Feely & Bell-Cross 2011). Thus far the closest documented and well-researched Early Iron Age site is located within the Great Kei River Valley. The site is situated some 200 m below the plateau and 60 km inland from the coast, within the borders of the Transkei, approximately 100 km up the coast towards Durban.

There has in the past been some speculation that EIA populations may have spread well south of the Transkei into the Ciskei, possibly up to the Great Fish River (Binneman et al. 1992), however, no further research has been undertaken to confirm these statements. Two closer EIA sites have been documented, one to the south of East London (Cronin 1982) and the other is situated 12 km west of East London on the west bank of the Buffalo River



(Nogwaza 1994). Thicker and decorated pottery sherds, kraals, possible remains of domesticated animals, upper and lower grindstones and storage pits are associated for identifying Early Iron Age sites. The sites are generally large settlements, but the archaeological visibility may in most cases be difficult owing to the organic nature of the homesteads. Metal and iron implements are also associated with Early Iron Age communities.

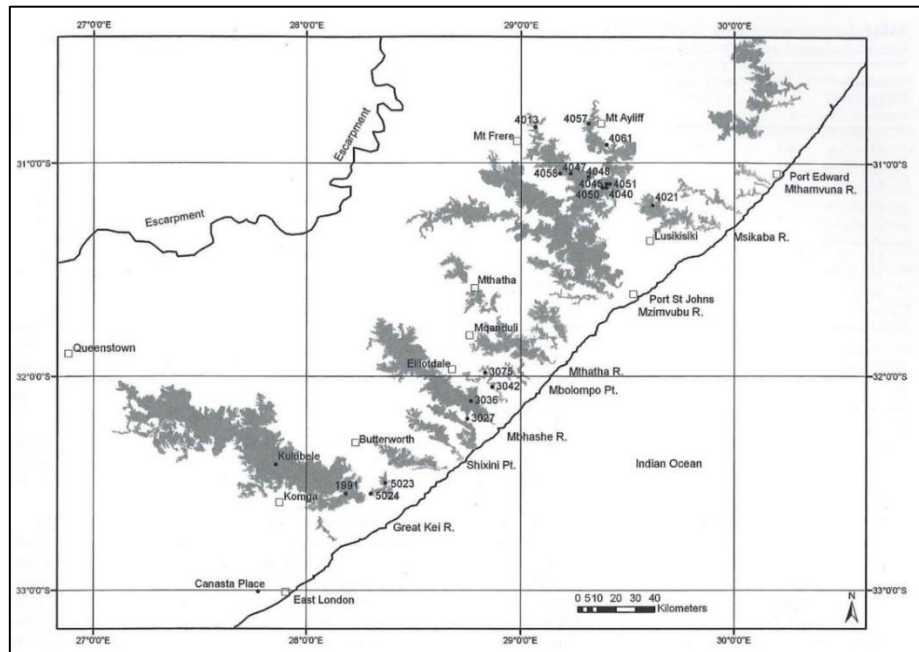


Figure 7-3: Early Iron Age farmer period sites in the Eastern Cape around Mthatha (after Feely & Bell-Cross 2011).

The Later Iron Age (LIA) is not only distinguished from the EIA by greater regional diversity of pottery styles but is also marked by extensive stone wall settlements. In many instances, LIA farmer communities moved from river valleys to the hilltops, such settlements have been formally recorded by the Albany Museum and cover a relatively extended area in comparison to the Early Iron Age settlement patterns (Binneman *et al.* 2010). LIA communities gradually expanded into the grasslands of the KwaZulu-Natal and north Eastern Cape interior. LIA sites in the Eastern Cape Province occur adjacent to the major rivers in low lying river valleys but also along ridge crests above the 800m contour. An early phase of the Late Iron Age has been uncovered in KwaZulu-Natal which transpired in a ceramic style known as “Blackburn”. This ceramic style represents a break with that of the Early Iron Age. Since there is a resemblance between Blackburn pottery and Nguni pottery, Huffman (1989) postulates that Blackburn reflects the migration of the Nguni to KwaZulu-Natal and later to the Transkei. Consequently, sites belonging to the final phase of the Late Iron Age can often be linked with historically known Nguni groups. The most southern Iron Age site, Kulubele, excavated by archaeologists from the Albany Museum during the 1990’s, is situated along the banks of the Kei River in the Kei River Valley. The earliest date for the site is 1250 BP yielded numerous settlement areas, thick-walled pottery, animal bones, and most importantly chicken bones that illustrates contact between the first farming communities and European seafarers. The LIA in the project area can be ascribed to the Mpondomise, Thembu, and Xhosa tribal clusters or their immediate predecessors (Feely 1987). It is also possible that some stone walled sites, especially those incorporating shelters or caves, were constructed by hybrid San/Nguni groups. Trade played a major role in the economy of LIA societies. Goods were traded locally and over long distances. The main trade goods included metal, salt, grain, cattle and thatch. This led to the establishment of economically driven centres and the growth of trade wealth. Keeping of domestic animals, metal work and the cultivation of crops continued with a change in the organisation of economic activities (Maggs, 1989; Huffman 2007). Hilltop settlements are mainly associated with LIA settlement patterns that occurred during the second millennium AD. Later Iron Age settlements have been formally



recorded by the Albany Museum and cover a relatively extended area in comparison with the Early Iron Age settlement patterns. With the exception of the Tembu, stone buildings which characterizes the Iron Age sites of Sotho areas, is absent in the Transkei and Ciskei, and a pattern of some mobility without, it is presumed, a stone working technology of significance, makes the allocation of sites a major problem (Derricourt 1973). Contact with the Cape Colony initially stimulated an already flexible and dynamic characteristic of the Cape Nguni political economy. When trade opportunities developed in the late 18th century, the Xhosa would exchange cattle (and permission for and guidance in hunting elephants) in return for copper, iron, beads (Peires 1981:95); they would then exchange these goods at a profit for cattle with their African neighbours to the east, bringing about a kind of speculation in cattle.

7.1.5 Later History and the Cultural Landscape

Oral tradition is the basis of the evidence of historical events that took place before written history could be recorded. This kind of evidence becomes even more reliable in cases where archaeology could be utilised to back up the oral records. Sources of evidence for socio political organization during the mid-eighteenth to early nineteenth century in the study area and the Transkei suggest that the people here existed in numerous small-scale political units of different sizes, population numbers and political structures (Feely 1987; Wright & Hamilton, 1989). This period was largely characterised by rage and instability as political skirmishes broke due to the thirst for power and resources between chiefdoms. During the 2nd half of the eighteenth century, stronger chiefdoms and paramoucies emerged. However, these were not fully grown states as there was no proper formal central political body established. This changed in the 1780's when a shift towards a more centralized political state occurred in parts of northern KwaZulu-Natal. The Zulu kingdom, established by King Shaka however became the most powerful in KwaZulu-Natal in the early years of the 19th century and had a marked influence on the local Nguni chiefdoms of the project area (Feely 1987). Refugees from north of the Umtavuna River such as the Bhaca and Qwabe tribes moved into the Transkei and asked the Mpondo chief for permission to settle in adjacent parts. These refugees were collectively called amaMfengu and many of these people were settled in parts of the project area and the adjacent areas near Qumbu and Mount Fletcher. One group of refugees from the north, the amaNgwane, crossed the Umthatha River in the project area, and fought a decisive battle against British colonial troops and their Thembu and Xhosa allies in 1828 at Mbholompo Point. During this episode the amaNgwane was defeated and the tribe broken-up (Peires 1981).

British Kaffraria experienced three waves of German immigrants in 1856, 1858, and 1877. The first of the German settlers were members of the German Crimean Legion in 1856. The British German Legion (or Anglo-German Legion) was a group of German soldiers recruited to fight for Britain in the Crimean War. It was disbanded near the end 1856, having seen little or no military action due to the war having ended. The majority of the members of the legion were resettled in the Eastern Cape Colony, in South Africa. As a result, to this day there are place names of German origin in the area around King Williams Town, including the town of Stutterheim. Ten locations at which German military settlers were placed that survived, five were alongside or near existing towns that enhanced their viability (Peddie, King Williams Town, Keiskammahoek, Cambridge and Panmure). Only five settlements established for German military settlers (about 23%) could be said to have become towns in their own right – Frankfort, Hamburg, Berlin, Breidbach and Stutterheim. The 1877 settler scheme was much smaller than the first two schemes –only 700 Germans arrived in the Eastern Cape in 1877 under the auspices of this latter recruitment drive (Schell 1954: 217) They did not settle in the same places as the previous German Settlers and most moved to “Kwelegha, Lilyfontein and Paardekraal” (Schnell 1954:218), with only three locations showing any overlap at all between the 1857-1858 settlements and these later settlers, namely Keiskammahoek, East London, and King Williams Town (Schnell 1954:218) (Zipp 2012).

Reverend John Brownlee, from the London Missionary Society, established the Buffalo Mission on the bank of the Buffalo River in January 1826. By 1832, the mission consisted of five substantial buildings. The mission station was attacked and burnt by the Xhosa during the War of Hintsa (1834-1835). King Williams Town was then to serve as the military and administrative centre for the new Province of Queen Adelaide. During May 1835,



Governor D'Urban extended the colonial boundary of the Cape to the western bank of the Great Kei River extending from the Keiskamma and Kei Rivers and south as far as the coast. The northern boundary, at this stage was indeterminate. However, by November 1835, D'Urban annexed the territory up to the Orange River in order to extend jurisdiction over Boers already grazing there and to neutralize Louis Trichardt's anti-British provocations (Lester 1998). King Williams Town, which was to be established on the LMS land, was declared the capital of the annexed territory of the conquered Province of Queen Adelaide in May 1835, during the 6th Frontier War. King Williams Town was surrounded by a ring of defensive forts Fort Beaufort, Fort Cox, Fort Thompson, Fort Peddie, Fort Willshire (was re-occupied) and Fort Montgomery-Williams, and Fort Hill (King Williams Town) (thesis). The subsequent peace treaty signed allowed the Xhosa to remain in specifically designated areas, termed locations, however, the bulk of their lands were given to European occupation (SAHO). It was soon realized that the colonial forces had little prospect of controlling the remote vastness of the province's Amatole Mountains and the continued resistance from the Xhosa. The Province of Queen Adelaide was retained for 18 months before being abandoned under pressure from the imperial government. This short-lived but significant annexation represented 'the first British attempt to extend control over a large body of formerly independent Africans' (Martens 2015). By July 1836, the British Cor renounced its claim to the Province of Queen Adelaide and ordered the withdrawal of all troops in the area, retaining only King Williams Town and Fort Cox. By the end of 1848, King Williams Town's importance was once again re-established when it became the capital of the new Crown Colony, British Kaffraria. The 8th Frontier War (the War of the Axe), brought destruction to the LMS and the lands between the Keiskamma and Great Kei Rivers were annexed to the Cape Colony. The new territory, known as British Kaffraria was divided into seven counties named Bedfordshire, Cambridgeshire, Lincolnshire, Middlesex, Yorkshire, Sussex and Northumberland which was roughly coincidental with the tribal divisions existing in the region before the war (SAHO). By the end of the 8th Frontier War, King Williams Town, had become a large military base and a number of structures had been built. The town was largely planned by the Royal Engineers and built with military labour. During 1860 British Kaffraria territory was proclaimed a Crown Colony with divisions at East London, King Williams Town, Stutterheim, Gonube, Keiskammahoek and Middelrift (SAHO). In April 1862, the military headquarters for the Eastern Frontier were moved from Grahamstown to King Williams Town as Grahamstown was already experiencing an economic depression. However, this endeavour was short-lived owing to the immense costs of housing the additional troops and the Cape colony High Commission Sir Phillip Wodehouse, recommended the reestablishment of Grahamstown as the military headquarters (Welsh 2000, Garson 1992, Lamar & Thompson 1981, Caffrey 1973) (thesis)

In 1866 King Williams Town was incorporated into the Cape Colony. The town's so-called coloured and Xhosa inhabitants also lived at Brownlee Station, Bidhili, Tsolo (later Ginsberg), Gillam's Drift (subsequently Schornville) and Breidbach. They were free to erect their own houses and municipal control was limited, however, they could not own land. Until 1870, the town's commercial and administrative significance grew and expanded along the plain on the left bank of the Buffalo River. At least four separate urban developments are clearly discernible (before 1870): New Town, just across the Fleet Ditch, Pensioner's Village, German Village and the areas on the lower slopes of the hills where wealthy residents erected their dwellings (Webb 2013). In May 1880: King Williams Town was connected by rail via Blaney Junction, with the centres of East London, Kei Road, Kubusie, Cathcart and Queenstown which proved to be a tremendous boost to the commercial interests of the town. By 1889, King Williams Town had become one of the largest trading districts in the Cape Colony, largely due to trade with the Xhosa and had come to be known as "the wholesale emporium of East London". At the turn of the century, King Williams Town was beginning to stagnate in relation to East London, largely because of their harbor facilities. After 1910: British Kaffraria became known as the Border region (SAHO). King Williams Town remained a garrison town, until 1913, and the military presence contributed greatly to the social scene, entertainment and sport. Between 1946-1982: Segregation was further imposed on the landscape with the establishment of townships like Zwelitsha (1946), Schornville (1959), Dimbaza (1968), and Phakamisa (c. 1982) and determined to a large extent, the development of the town. The area's economy depended on cattle and



sheep ranching, and the town itself has a large industrial base producing textiles, soap, candles, sweets, cartons and clothing.

Its proximity to the new provincial capital city of Bhishe has brought much development to the area since the end of apartheid in 1994. In September 2021 the Eastern Cape government announced plans to give the city a new name as part of what it described as a programme aimed at transforming the country's geographic landscape to be more representative of its people. The city officially became Qonce on 21 February 2021.

8 FINDINGS AND RESULTS

8.1 ARCHAEOLOGY AND THE CULTURAL LANDSCAPE

8.1.1 Desktop Appraisal

In terms of heritage resources, the general landscape around the project area is primarily well known for its Iron Age Farmer and Colonial / Historical Period archaeology related to farming, rural expansion and warfare as well as Industrialization of the past century. An analysis of historical aerial imagery and archive maps reveals the following (see Figure 8-4 to Figure 8-8):

- Erven 522, 523, 524 and 525 are indicated on the “Plan shewing military defences of King Williams Town” dating to 1871. No buildings, structures or features are indicated on the Erven on the map.
- A number of buildings / structures appear on topographic maps of Erven 522, 523, 524 and 525, dating to 1955, 1971, 1985, 1960 and 2003. One of these buildings are indicated as a “ruin” on the 2013 topographic map. These were assumedly residential houses as observed from Google Street view imagery dating to 2010.
- A number of buildings and dwellings are also visible on Erven 522, 523, 524 and 525 on aerial imagery dating to 1938, 1963 and 1978.
- Small portions of Erven 522, 523, 524 and 525 seem to have been used as agricultural lands as legible on indicated on topographic maps dating to 1938 and 1963.

8.1.2 Site Survey Findings

An analysis of historical aerial imagery and archive maps of areas subject to this assessment suggests a landscape which has been subjected to historical and contemporary urban development possibly sterilising the area of heritage remains.

This inference was confirmed during an archaeological site assessment and no in situ heritage remains, archaeological sites, built environment features or burial sites were encountered in the project area.

However, the poorly preserved ruins of a multi-room building (coded **QON-HP01** for the purposes of this assessment) occur along the southern periphery of the project area at **S32.874045° E27.385017°**. The building was assumedly part of a cluster of residential houses as observed from Google Street view imagery dating to 2010. It was vandalised in the last decade where wooden doors, window frames, corrugated iron roof structures and trusses and floors were removed. Some exterior and interior walls were also demolished and the site is in a state of general disrepair. The building feature is indicated on archive topographic maps and photographs indicating that it is older than 60 years and generally protected under the National Heritage Resource Act (NHRA 1999). However, it is rated as low significance due to the general poor preservation of the features and the loss of historical context for the building. Even though the building is situated outside the project area, a permit for its alteration or destruction will be required should the site be impacted in any way by the development.

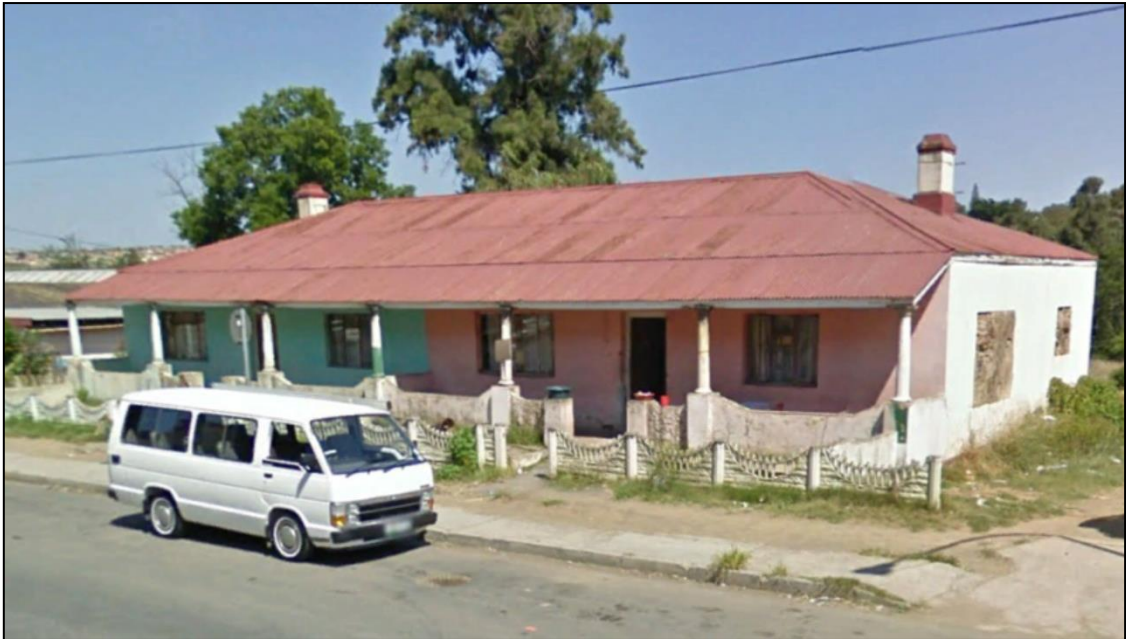


Figure 8-1: A Google Street view image of the Historical Period building at QON-HP01, dating to 2010.



Figure 8-2: View of the Historical Period buildings at QON-HP01 in its current state of disrepair.

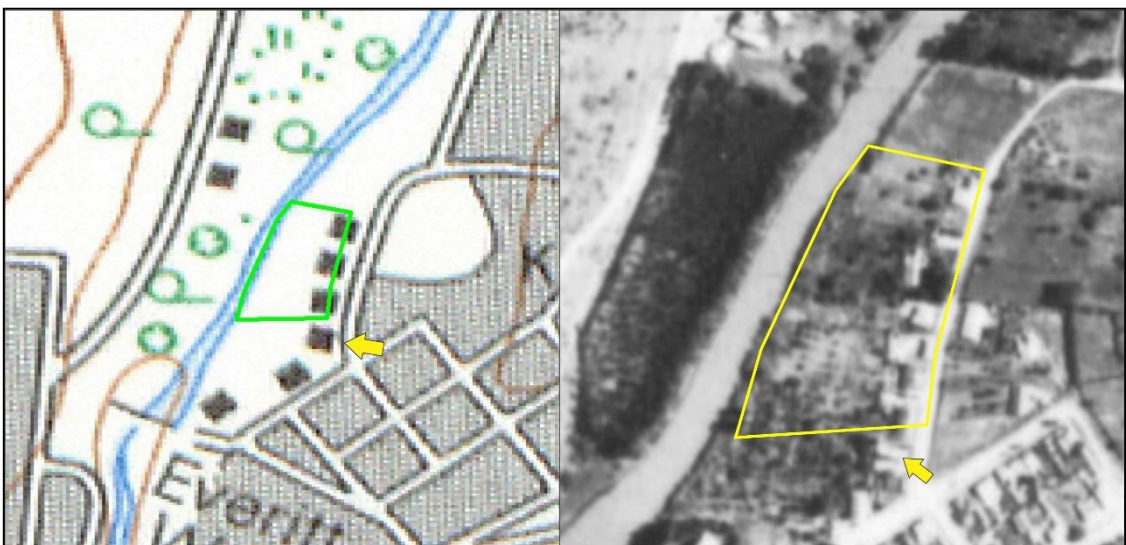
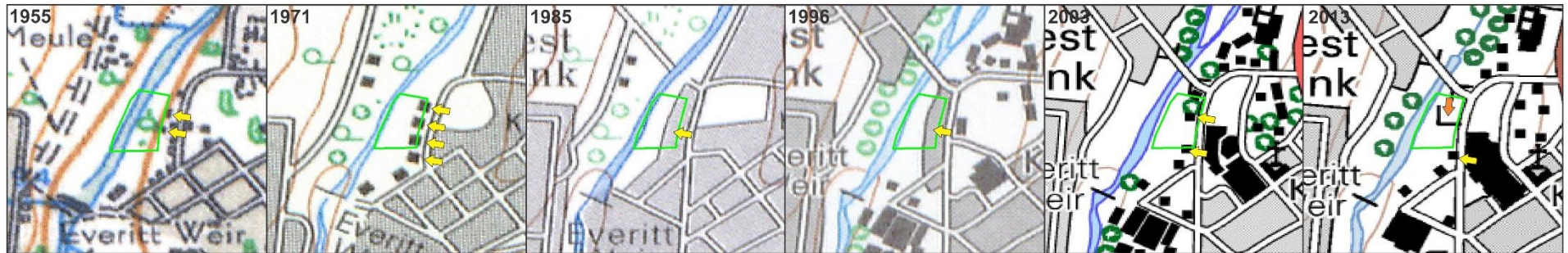


Figure 8-3: The Historical Period building at QON-HP01 (yellow arrow) indicated on a topographic map dating to 1955 (left) and legible on an aerial image dating to 1938. The project area is indicated by the green and yellow polygon.



VERKLARING	REFERENCE	VERKLARING	REFERENCE	REFERENCE	VERKLARING	REFERENCE	VERKLARING
Grense, Internasionale	Boundaries, International	Riviere, standhouend.	Rivers, perennial	National Freeway; National Route	Nasionale Deurpad; Nasionale Rooete	Internasional Boundary and Beacon	Internasionale Grens on Baken
Provisiale	Provincial	Nie standhouend.	non-perennial	Arterial Road	Hoofpad	Provincial Boundary	Provisiale Grens
Spoorweel, Dubbelspoor	Railways, Double	Moerasse of Vlei	Marshes or Vlei	Main Road	Sekundêre Pad; Hoofgemaak	Protected Area	Bewarings Gebied
Gaasdraad/raai	Electrified	Panne, Mare	Pans, Lakes	Secondary Road; Bench Mark	Ander Pad; Brug	Perennial River	Standhouende River
Enkelspoor	Single	Stuilmme, Pylsme (P), Vorm	Ways, Pipelines (P), Formes	Other Road; Bridge	Dowwe Pad; Doerpad	Non-perennial River	Nie-standhouende River
Sandspoor	Narrow Gauge	Damme, Kantele	Dams, Canals	Track and Hiking Trail	Spoorweg; Stasie of Sylyn	Dry Water Course	Nie-standhouende Water
Mineraal, Suikerriet, ens.	Mineral, Sugar Cane, etc.	Fontein, Watergate of Putte	Fountains, Waterholes or Wells	Railway; Station or Sliding	Ander Spoorweg; Tunnel	Pipeline (above ground)	Water Tower; Reservoir; Water Point
Paas, Nasionale	Roads, National	Foossonne	Photo Centres	Other Railway; Tunnel	Opvulling; Deurgroewing	Marsh and Vlei	Moeras on Vlei
Hoof.	Main	Verspreide Gebiede	Scattered Bush, Bushveld	Embankments; Cutting	Betoude Gebied (Hoë, Lae Digtheid)	Water Tower; Reservoir; Water Point	Wateroring; Reservoir; Waterpunt
Ander	Other	Hoogteylne	Contours	Built-up Area (High, Low Density)	Geboue; Muraste	Dry Pan	Droë Pan
Dorwepaas en Voetpaas	Tracks and Footpaths	Bewerkte Lande	Cultivated Lands	Buildings; Ruin	Plek van Aanbidding; Skool; Hotel	Erosion; Sand	Erosie; Sand
Vuurtoring; Nasionale Monumente	Lighthouses; National Monuments	Boorde; Wingerde	Orchards; Vineyards	Built-up Area (High, Low Density)	Windpomp; Monument	Woodland	Beboste Gebied
Telegraaf- of Telefoonlyne	Telegraph or Telephone Lines	Plantasies	Plantations	Post Office; Police Station; Store	Kommunikasietoring	Cultivated Land	Bewerkte Land
Kraglyne	Power Lines	Windkutte en Lane	Windbreaks and Avenues	Place of Worship; School; Hotel	Mynhoop; Uitgrawing	Recreation Ground	Boord of Wingerd
Hoogtemerk (Hoopie of Hoë, Lae)	Bench Marks (Hoopie or Hoë, Lae)	Verspreide Bosse, Bosveld	Scattered Bush, Bushveld	Fence; Wall	Peilbaken; Seevaarbaken	Row of Trees	Ontspanningsterrein
Trië Baken (Hoopie of Hoë, Lae)	Trië Beacons (Hoopie or Hoë, Lae)	Digte Bos en Woude	Dense Bush and Forests	Windpomp; Monument	Vuurtoring en Seevaartig		Rye Borne
Polistasas, Winkels, Hotelle	Police Stations, Stores, Hotels	Kakus	Cacti	Communication Tower	Begraafplaas; Graf		
Pos- of Telegraafkantore	Post or Telegraph Offices			Mine Dump; Excavation			
Kaferstasie, Veerkraal	Native Huts, Cattle Kraal			Lighthouse and Marine Light			
Hoopgroeie (Hoë, Lae)	Spot Heights (Hoë, Lae)			Cemetery; Grave			
Stangroewe, Sandgate	Quarries, Sandgate						
Mynhoop	Mine Dumps						
Krans	Krans						
Korrosie, Rotsdagrome	Coastal Rocks, Rock Outcrops						
Draad	Fence						

Figure 8-4: Historical topographic maps of the project area (green outline). Buildings and dwellings are indicated by the yellow arrows and the orange arrow on the 2013 map section indicate a ruin.

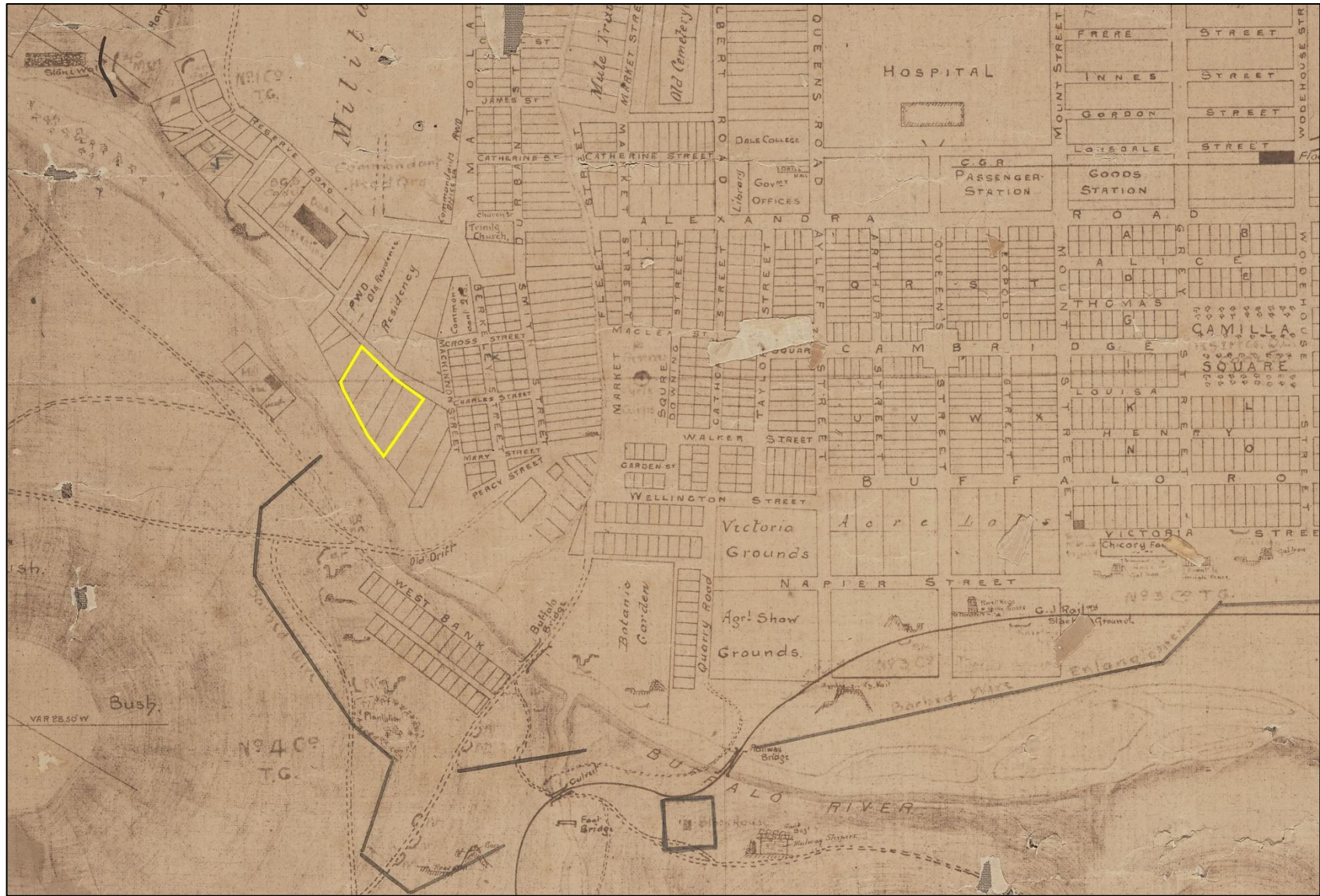


Figure 8-5: The “Plan shewing military defences of King Williams Town” dating to 1871. The project area is indicated by the yellow polygon.



Figure 8-6: An aerial image of the project area (yellow polygon) dating to 1938 indicating the presence of man-made structures or features (yellow arrows) and agricultural lands or gardens (green arrows).



Figure 8-7: An aerial image of the project area (yellow polygon) dating to 1963 indicating the presence of man-made structures or features (yellow arrows) and agricultural lands or gardens (green arrows).



Figure 8-8: An aerial image of the project area (yellow polygon) dating to 1978 indicating the presence of man-made structures or features (yellow arrows).



Figure 8-9: An aerial image of indicating the location of the heritage site discussed in the text.



9 EXPECTED HERITAGE IMPACTS OF THE PROJECT

Generally, the value and significance of archaeological and other heritage sites might be impacted on by any activity that would result immediately or in the future in the destruction, damage, excavation, alteration, removal or collection from its original position, of any archaeological material or object (as indicated in the National Heritage Resources Act (No 25 of 1999)). Thus, the destructive impacts that are possible in terms of heritage resources would tend to be direct, once-off events occurring during the initial construction period. However, in the long run, the proximity of operations in any given area could result in secondary indirect impacts. Direct or primary effects on heritage resources occur at the same time and in the same space as the activity, e.g. loss of historical fabric through demolition work. Indirect effects or secondary effects on heritage resources occur later in time or at a different place from the causal activity, or as a result of a complex pathway, e.g. restriction of access to a heritage resource resulting in the gradual erosion of its significance, which is dependent on ritual patterns of access (refer to Section 10.3 in the Addendum for an outline of the relationship between the significance of a heritage context, the intensity of development and the significance of heritage impacts to be expected).

The EIA process therefore specifies impact assessment criteria which can be utilised from the perspective of a heritage specialist study which elucidates the overall extent of impacts. The following section provides a background to the identification and assessment of possible direct and indirect impacts and alternatives, as well as a range of risk situations and scenarios commonly associated with heritage resources management. A guideline for the rating of impacts and recommendation of management actions for areas of heritage potential within the study area is supplied in Addendum 3.

9.1 PRECONSTRUCTION PHASE

Heritage risks and impacts are commonly associated with construction activities and no impact on archaeological sites, built environment features, human burials and the cultural landscape is foreseen during the preconstruction phase. However, some mitigation and management measures will require actioning during this phase, particularly the application for an alteration / destruction permit for the Historical buildings remains south of the project area (QON- HP01), should impact on the site be expected during construction.

9.2 CONSTRUCTION PHASE

Construction activities pose the greatest threat to tangible heritage resources within the cultural landscape and it is often during this Phase that heritage sites are lost. However, large sections of the project area and the baseline environment have been affected by historical, recent and ongoing urban development which possibly sterilized the landscape from prehistorical archaeological and other remnants. As no archaeological sites, heritage remains, built environment features or burial sites were located within the project area during the site assessment no apparent impact on the heritage landscape is foreseen during the construction phase. No direct or peripheral heritage impact on the Historical building remains south of the project area (QON- HP01) is anticipated provided that an alteration / destruction permit is obtained, should the site be impacted. It should be noted that previously undetected cultural (archaeological) layers are usually superficial, subsoil layers and that makes them easily vulnerable to destruction and the likelihood for encountering additional cultural heritage sites as the land clearing process commences, or during construction of infrastructure should be considered. Graves and cemeteries do not only occur around towns but they are also randomly scattered around archaeological and historical settlements in the rural areas of the Eastern Cape Province. The probability of informal human burials encountered during the construction phase should thus not be excluded. Generally, the construction of transmission lines are typically low impact activities but excavation holes may expose artefacts,



sites or human remains and ECO monitoring activities will be required throughout the construction phase of the project. Monitoring activities will be required throughout the construction phase of the Project in order to avoid the destruction of previously undetected heritage sites and human burials

9.3 OPERATIONS PHASE

It is understood that no new areas will be disturbed and/or impacted during the operations phase of the project and the risk and severity of heritage impacts should decrease once the projects activate. Furthermore, the majority of sites of archaeological and heritage significance would have been recorded and/or assessed in preceding phases. However, impact on previously undetected archaeological sites, human burials and the cultural landscape might occur as a result of operational activities (site access, movement, maintenance, trespassing, natural elements, hazards etc). Continuous ECO site monitoring will be required.

9.4 DECOMMISSIONING AND POST-CLOSURE PHASE

The decommissioning phase will see the progressive downscaling and termination of operations. Similar to the Operations Phase, no new areas are expected to be disturbed and/or impacted and no additional sites of archaeological and heritage significance are expected to be impacted on during decommissioning. During the decommissioning and closure phase, it may be recommended that the ECO review management procedures and ensure that effective measures were implemented.

9.5 CUMULATIVE IMPACTS

It is the opinion of the Specialist that the proposed Qonce Erven 522, 523, 524 & 525 Development Project will have a little to negligible negative cumulative impact on the heritage value of the area for the following reasons:

- The absence of significant archaeological resources documented in the project area and in its immediate surroundings implies low-severity short and long-term impacts on the heritage landscape.
- The project is located in urban zones of an expanding town and the transformed nature of the project area and the surroundings means that the heritage significance of this landscape is bound to remain unchanged during the course of construction and operational phases of the project.
- It should be noted that archaeological knowledge and the initiation of research projects into significant archaeological sites often result from Heritage Impact Assessments conducted for developments. Provided that significant archaeological sites are conserved and that appropriate heritage mitigation and management procedures are followed, the cumulative impact of development can be positive.

9.6 HERITAGE IMPACT ASSESSMENT MATRIX

The following table (Table 1) summarizes impacts to the heritage landscape of the study area:



**Table 1 Impact Assessment Matrix
Pre-Construction Phase**

Criteria	Nature	Temporal Scale	Spatial Scale	Severity	Probability	Overall Significance before mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Overall Significance after mitigation
Impact 1: Loss of Heritage Resources										
Archaeological sites, heritage remains, built environment features or burial sites	Negative	Short term	Study area	Slight/ Slightly Beneficial	Unlikely	LOW	Irreversible	Resource will not be lost	Easily achievable	LOW

Construction Phase

Criteria	Nature	Temporal Scale	Spatial Scale	Severity	Probability	Overall Significance before mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Overall Significance after mitigation
Impact 1: Loss of Heritage Resources										
Archaeological sites, heritage remains, built environment features or burial sites	Negative	Short term	Study area	Slight/ Slightly Beneficial	Unlikely	LOW	Irreversible	Resource will not be lost	Easily achievable	LOW

Operation Phase

Criteria	Nature	Temporal Scale	Spatial Scale	Severity	Probability	Overall Significance before mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Overall Significance after mitigation
Impact 1: Loss of Heritage Resources										
Archaeological sites, heritage remains, built environment features or burial sites	Negative	Short term	Study area	Slight/ Slightly Beneficial	Unlikely	LOW	Irreversible	Resource will not be lost	Easily achievable	LOW

Closure / Decommissioning Phase

Criteria	Nature	Temporal Scale	Spatial Scale	Severity	Probability	Overall Significance before mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Overall Significance after mitigation
Impact 1: Loss of Heritage Resources										
Archaeological sites, heritage remains, built environment features or burial sites	Negative	Short term	Study area	Slight/ Slightly Beneficial	Unlikely	LOW	Irreversible	Resource will not be lost	Easily achievable	LOW



10 HERITAGE MANAGEMENT

10.1 HERITAGE SITE MANAGEMENT

Recommendations for relevant heritage resource management actions are vital to the conservation of heritage resources. A general guideline for recommended management actions is included in Section 10.4 of Addendum 3.

OBJECTIVE: ensure conservation of heritage resources of significance, prevent unnecessary disturbance and/or destruction of previously undetected heritage receptors.

No archaeological sites, heritage remains, built environment features or burial sites were noted in the project area but the following general measures are recommended in terms of heritage management and mitigation:

POTENTIAL IMPACT	Damage/destruction of sites.	
ACTIVITY RISK/SOURCE	Digging foundations and trenches into sensitive deposits that are not visible at the surface.	
MITIGATION: TARGET/OBJECTIVE	To locate previously undetected heritage remains / graves as soon as possible after disturbance so as to maximize the chances of successful rescue/mitigation work.	
MITIGATION: ACTION/CONTROL	RESPONSIBILITY	PROJECT COMPONENT/S
Site Monitoring: General Site Monitoring in order to detect the presence of and limit impact on previously undocumented heritage receptors during construction / site clearing / earth moving.	ECO	Construction
Site Monitoring: General Site Monitoring in order to detect the presence of and limit impact on previously undocumented heritage receptors during construction / site clearing / earth moving.	ECO	Operation
Site Monitoring: General Site Monitoring in order to detect the presence of and limit impact on previously undocumented heritage receptors during construction / site clearing / earth moving.	ECO, HERITAGE ASSESSMENT PRACTITIONER	Closure / Decommissioning
PERFORMANCE INDICATOR	Archaeological sites are discovered and mitigated with the minimum amount of unnecessary disturbance.	

For the Historical Period building remains of low significance (QON-HP01) in close proximity of the project area the following are required in terms of heritage management and mitigation:

POTENTIAL IMPACT	Damage/destruction of sites.	
ACTIVITY RISK/SOURCE	Digging foundations and trenches into sensitive deposits that are not visible at the surface.	
MITIGATION: TARGET/OBJECTIVE	To locate previously undetected heritage remains / graves as soon as possible after disturbance so as to maximize the chances of successful rescue/mitigation work.	
MITIGATION: ACTION/CONTROL	RESPONSIBILITY	PROJECT COMPONENT/S
Permitting: If the site is to be impacted, obtain the necessary destruction permits from the relevant Heritage Resources Authority (EC-PHRA) prior to site impact and destruction.	ECO, HERITAGE ASSESSMENT PRACTITIONER	Pre-Construction
Close-Out Reporting: ECO review management procedures and ensure that effective measures were implemented.	ECO, HERITAGE ASSESSMENT PRACTITIONER	Closure / Decommissioning
PERFORMANCE INDICATOR	Archaeological sites are discovered and mitigated with the minimum amount of unnecessary disturbance.	



11 CONCLUSION AND RECOMMENDATIONS

The larger landscape around the project area indicates a rich heritage horizon encompassing Iron Age Farmer and Colonial / Historical Period archaeology primarily related to farming, rural expansion and warfare of the past century. The following observations are made for the proposed Qonce Erven 522, 523, 524 & 525 Development Project:

- The archaeological site assessment identified **no heritage receptors within the project footprint**. However, the poorly preserved ruins of a multi-room building (**QON-HP01**) occur along the southern periphery of the project area outside of the proposed footprint. The building was assumedly part of a cluster of residential houses and it was severely damaged and vandalised in the last decade. The site is older than 60 years and generally protected under the National Heritage Resource Act (NHRA 1999) but it is rated as low significance due to the general poor preservation of the features and the loss of historical context for the building. Even though the building is situated outside the project area, a permit for its alteration or destruction will be required should the site be impacted in any way by the development. Any permit applications can be directed to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) at ayanda.mncwabe-mama@ecsrac.gov.za or (043) 492 1370.
- As no archaeological sites, heritage remains, built environment features or burial sites were located during the site assessment no apparent impact on the heritage landscape is foreseen during the preconstruction, construction and operation phases of the project. However, since cultural (archaeological) layers are usually superficial, subsoil layers and that makes them easily vulnerable to destruction, the likelihood for encountering previously undetected cultural heritage or archaeological material sites as the land clearing process commences, or during construction of infrastructure should be considered. Graves and cemeteries are often scattered around archaeological and historical settlements in the rural areas of the Eastern Cape Province and the probability of informal human burials encountered during the construction phase should thus not be excluded. Site monitoring by an informed ESO and appointed ECO will be required throughout the construction phase of the project in order to avoid the destruction of previously undetected heritage sites. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately.

In addition to these site-specific recommendations, careful cognizance should be taken of the following:

- As Palaeontological remains occur where bedrock has been exposed, all geological features should be regarded as sensitive.
- Water sources such as drainage lines, fountains and pans would often have attracted human activity in the past. As Stone Age material occur in the larger landscape, such resources should be regarded as potentially sensitive in terms of possible subsurface deposits.



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Accessed 2023-05-20



13 ADDENDUM 1: EC-PHRA NID RESPONSE



2nd Floor Old Elco Building, No.17 Commissioner Street
 Telephone: 043 492 1940/1/2
 E-mail: info@ecphra.org.za

PROJECT: PROPOSED SITE CLEARANCE ON ERVEN 522, 523, 524 & 525 IN QONCE, BCMM.

ECPHRA REF: No. 38/1/23/04/002

Enquiries: Ayanda Mncwabe-Mama
 Date: 2023/04/17
 Email: ayanda.mncwabe-mama@ecsrac.gov.za

Applicant: Department of Water Affairs & Sanitation
 Consultants: Coastal & Environmental Services (Pty) Ltd
 Address: 72 Regency Drive, Route 21 Business Park, Centurion, 0178
 Email: neels.kruger@cesnet.co.za
 Tel: 082 967 2131

BACKGROUND:

AGES Omega was commissioned to undertake and prepare the Environmental Authorisation Application, Basic Assessment required by the EIA regulations published in the Government Gazette 38282 dated 4 December 2014 (amended April 2017) for the proposed clearing of Erven 522, 523, 524 and 525 in the Qonce Area, Buffalo City Metropolitan Municipality, Eastern Cape. The Department of Public Works and Infrastructure (DPWI) provides accommodation to various User Departments that are located in Qonce in the Eastern Cape Province and has established the need to plan and develop a Government Precinct in the town of Qonce.

ECPHRA FINAL COMMENTS:

This matter was circulated to the Archaeology, Palaeontology and Meteorites (APM) Committee on 14 April 2023.

The proposed project triggers **Section 38(1) of the National Heritage Resources Act (Act 25 of 1999)** therefore an HIA (Heritage Impact Assessment) which comprises an AIA (Archaeological Impact Assessment) and a PIA (Paleontological Impact Assessment) will be required by the Eastern Cape Provincial Heritage Authority (ECPHRA).

.....
 Dr. Nonhlanhla Vilakazi

ECPHRA: APM COMMITTEE CHAIRPERSON

Date: 17/04/2023



14 ADDENDUM 2: SPECIALIST CV

NELIUS LE ROUX KRUGER

BHCS Hons. (Archaeology)

(Date compiled: 2023/01/10)

PERSONAL DETAILS

Nationality:	South African
Date of Birth:	3 April 1979
Postal Address:	Postnet Suite 74, Private Bag x04, Menlo Park, 0102
Work Address:	70 Regency Dr, Route 21 Business Park, Centurion, 0178
Telephone numbers:	W: +27 12 751 2160 C: +27 82 967 2131
Identity number:	790403 5029 087
Languages:	English, Afrikaans, Sepedi (Basic)

HIGHER EDUCATION

University Attended:	University of the Pretoria
Degree Obtained:	BA Archaeology (<i>Cum Laude</i>) 2002
Major Subjects:	Anthropology, Archaeology, English, Afrikaans
University Attended:	University of the Pretoria
Degree Obtained:	BHCS Hons. Archaeology (<i>Cum Laude</i>) 2004

PROFESSIONAL AFFILIATIONS

- Member of the Association for South African Professional Archaeologists (ASAPA).
- Member of the Council of the Association for South African Professional Archaeologists (ASAPA): CRM Portfolio
- Member of the CRM Section of the Association for South African Professional Archaeologists (ASAPA).
- Member of the Society of Africanist Archaeologists (SAFA).
- Member of the South African Museums Association (SAMA).
- Accredited Professional Archaeologist & CRM Practitioner by the Association for South African Professional Archaeologists (ASAPA) & Heritage Natal (AMAFA).

HONOURS AND AWARDS

- Aage V. Jensen Development Foundation (Denmark) grant for participation in the joint SAFA/PAA Congress, Dakar, Senegal (2010).
- Five Hundred Years Initiative (NRF) Research Grant (2008 – 2009).
- University of Pretoria post-graduate Merit Grant for MA studies in Archaeology (2004 – 2008).
- University of Pretoria (CINDEK) bursary for post-graduate studies awarded by the Centre of Indigenous Knowledge (2003).
- South African Archaeological Society's Hanisch Award for best graduate student in the Department of Anthropology and Archaeology at the University of Pretoria (2003).
- University of Pretoria Academic Honorary Colours (2002).



University of Pretoria Graduate Merit Grant (2002).

University of Pretoria honorarium for archaeological collections management at the Department of Archaeology and Anthropology (2001).

CURRENT STATUS

Heritage Resources Manager for CES

SPECIALITY FIELDS

- Integrated Heritage and Archaeological Impact Assessment (Phase 1, 2 & 3), complying to SAHRA, PHRA and industry standards for heritage impact assessments.
- Industry standard Heritage Resources Management Plans, complying to SAHRA & PHRA standards for heritage impact assessments.
- Heritage destruction / alteration / excavation permitting facilitation and associated research.
- General facilitation in consultation and negotiation with heritage resources authorities (SAHRA, PHRA's).
- Heritage-related social consultation and focus group facilitation (for example, with Interested and Affected parties).
- Historical and anthropological studies.
- Heritage and Social Spatial Development Frameworks & Strategic Development Area Frameworks for municipalities.
- Industry standard and compliant Social Impact Assessments (SIA's).
- Mine Social and Labour Plans (SLP's) and social facilitation.
- Socio-cultural baseline studies and research.
- GIS and geo-spatial referencing and data analysis, heritage and social mapping.

PROFESSIONAL SKILLS & EXPERIENCE

Nelius Le Roux Kruger is an accredited ASAPA (Association of Southern African Professional Archaeologists) archaeologist and Culture Resources Management (CRM) Practitioner with over 15 years' experience in the fields of heritage resources assessment, conservation management and social studies. In addition, he is involved in various aspects of social research and social impact assessment. He holds a BHCS (Hons) Archaeology degree from the University of Pretoria specializing in the Iron Age Farmer and Colonial Periods of South Africa. He has worked extensively on archaeological and heritage sites of the time periods and cultural contexts present in Southern Africa, both in the commercial and academics spheres and he holds vast experience in human remains relocation and related social consultation. Nelius has conducted social research projects across Southern Africa involving Social Impact Assessments as well as the compilation and monitoring of mining social and labor plans, public meeting facilitation and socio-cultural studies. His experience is not limited to South Africa and he has worked on archaeological and socio-cultural research projects across Africa and the Middle East. His publication record includes a number of academic publications in peer reviewed journals and books as well as a vast number of Heritage Management Reports. Nelius' expertise includes CRM assessment and management, applications in heritage legislation, Social Impact Assessment, social consulting as well as geospatial and Geographical Information Systems (GIS) applications in archaeology and CRM. Nelius is a conscientious and committed archaeologist and social scientist who is dedicated to the professionalism of the discipline of archaeology and social studies. He approaches all aspects of his specialist fields with enthusiasm, maintaining best practise at all times. When working with people, he strives to manage interpersonal communication and group dynamics with dedication, promoting positive group cohesion.

SELECTED PUBLICATIONS

- Kruger, N. In Prep. Living the frontier: Ritual and Conflict in Ha-Tshirundu.
- Kruger, N. 2016. Forthcoming. The Crocodile in his Pool: Notes on a significant find in the Ha-Tshirundu area, Limpopo Valley, South Africa. Nyame Akuma Bulletin of the Association of Africanist Archaeologists.
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SELECTED PROJECTS

NATIONAL

- Phase 1 Heritage Impact Assessment (HIA) and further heritage management for the upgrading of the Warrenton Anglo Boer War blockhouse, Warrenton, Northern Cape Province
- Phase 1 Heritage Impact Assessment (HIA) and Phase 2 Site Investigation for the restoration of the old Johannesburg Fort, Constitution Hill, Johannesburg, Gauteng Province
- Phase 1 Heritage Impact Assessment (HIA) and further heritage management for the upgrading/refurbishment of the Burgershoop MPCC, Mogale City, Gauteng Province
- Phase 1 Heritage Impact Assessment (HIA) of historical period heritage sites on the farm Roodekrans, Dullstroom area, Mpumalanga Province
- Phase 1 Heritage Impact Assessment (HIA) of a historical bridge on the farm Pienaarspoort 339jr at Delfsand, Gauteng Province
- Phase 1 Heritage Impact Basements (HIAs) for 20 PV Solar Parks on location at Upington, Kimberley, Vryburg, Kuruman, Kathu, Hotazel, Douglas, Groblershoop and Prieska, Northern Cape Province, South Africa.
- Phase 1 Heritage Impact Assessments (HIAs) for 18 large scale water supply projects on location at East London, Mthatha, Ngcobo, Barley East, Elliot, Cathcart, King Williams Town and Mdantsane, Eastern Cape Province, South Africa.
- Phase 1 Heritage Impact Assessments (HIAs) for more than 40 residential infrastructure developments across South Africa.

INTERNATIONAL

- Heritage Impact Assessment for the Kitumba Copper-Gold Project (KCGP), Zambia
- Heritage Scoping Study for the BTR Kitumba Project, Mumbwa, Zambia
- Heritage Scoping Study for the Buckreef Gold Project, Geita, Tanzania
- Phase 2 mitigation and heritage assessment of the Koidu Monkey Hill Iron Age metallurgy site, Koidu Diamond Mine, Sierra Leone
- Phase 2 heritage site mitigation of the Sessenge archaeological site, Kibali Gold Mine, Democratic Republic of the Congo.



15 ADDENDUM 3: HERITAGE LEGISLATION

15.1 CRM: LEGISLATION, CONSERVATION AND HERITAGE MANAGEMENT

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

15.1.1 Legislation regarding archaeology and heritage sites

The South African Heritage Resources Agency (SAHRA) and their provincial offices aim to conserve and control the management, research, alteration and destruction of cultural resources of South Africa. It is therefore vitally important to adhere to heritage resource legislation at all times.

a. National Heritage Resources Act No 25 of 1999, section 35

According to the National Heritage Resources Act of 1999 a historical site is any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years. This clause is commonly known as the “60-years clause”. Buildings are amongst the most enduring features of human occupation, and this definition therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Iron Age settlements. “Tell” refers to the evidence of human existence which is no longer above ground level, such as building foundations and buried remains of settlements (including artefacts).

The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens
- visual art objects
- military objects
- numismatic objects
- objects of cultural and historical significance
- objects to which oral traditions are attached and which are associated with living heritage
- objects of scientific or technological interest
- any other prescribed category

With regards to activities and work on archaeological and heritage sites this Act states that:

“No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority.” (34. [1] 1999:58)

and

“No person may, without a permit issued by the responsible heritage resources authority-

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



- (e) *destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (f) *trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (g) *bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."*

and

"No person may, without a permit issued by SAHRA or a provincial heritage resources agency-

- (h) *destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (i) *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;*
- (j) *bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."*

b. Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

15.1.2 Background to HIA and AIA Studies

South Africa's unique and non-renewable archaeological and palaeontological heritage sites are 'generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. Heritage sites are frequently threatened by development projects and both the environmental and heritage legislation require impact assessments (HIAs & AIAs) that identify all heritage resources in areas to be developed. Particularly, these assessments are required to make recommendations for protection or mitigation of the impact of the sites. HIAs and AIAs should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources including archaeological and palaeontological sites that might occur in areas of developed and (b) make recommendations for protection or mitigation of the impact on the sites.

The National Heritage Resources Act (Act No. 25 of 1999, section 38) provides guidelines for Cultural Resources Management and prospective developments:



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

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site:*
 - (i) exceeding 5 000 m² in extent; or*
 - (ii) involving three or more existing erven or subdivisions thereof; or*
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,*

must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”

And:

“The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

- (k) The identification and mapping of all heritage resources in the area affected;*
- (l) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (m) an assessment of the impact of the development on such heritage resources;*
- (n) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (o) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (p) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (q) plans for mitigation of any adverse effects during and after the completion of the proposed development (38. [3] 1999:64).”*



Consequently, section 35 of the Act requires Heritage Impact Assessments (HIAs) or Archaeological Impact Assessments (AIAs) to be done for such developments in order for all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic or technological value or significance to be protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects. Heritage resources management and conservation.

15.2 ASSESSING THE SIGNIFICANCE OF HERITAGE RESOURCES

Archaeological sites, as previously defined in the National Heritage Resources Act (Act 25 of 1999) are places in the landscape where people have lived in the past – generally more than 60 years ago – and have left traces of their presence behind. In South Africa, archaeological sites include hominid fossil sites, places where people of the Earlier, Middle and Later Stone Age lived in open sites, river gravels, rock shelters and caves, Iron Age sites, graves, and a variety of historical sites and structures in rural areas, towns and cities. Palaeontological sites are those with fossil remains of plants and animals where people were not involved in the accumulation of the deposits. The basic principle of cultural heritage conservation is that archaeological and other heritage sites are valuable, scarce and *non-renewable*. Many such sites are unfortunately lost on a daily basis through development for housing, roads and infrastructure and once archaeological sites are damaged, they cannot be re-created as site integrity and authenticity is permanently lost. Archaeological sites have the potential to contribute to our understanding of the history of the region and of our country and continent. By preserving links with our past, we may not be able to revive lost cultural traditions, but it enables us to appreciate the role they have played in the history of our country.

- CATEGORIES OF SIGNIFICANCE

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

- *Aesthetic value:*

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

- *Historic value:*

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually a place has historical value because of some kind of influence by an event, person, phase or activity.

- *Scientific value:*

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.



- *Social value:*

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group.

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources; i.e. formally protected and generally protected sites:

Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by the provincial HRA (MP-PHRA).
- Grade 3 or local heritage sites.

Generally protected sites:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 60 years.
- Structures older than 60 years.

With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories.

Significance	Rating Action
No significance: sites that do not require mitigation.	None
Low significance: sites, which may require mitigation.	2a. Recording and documentation (Phase 1) of site; no further action required 2b. Controlled sampling (shovel test pits, auguring), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium significance: sites, which require mitigation.	3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High significance: sites, where disturbance should be avoided.	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism
High significance: Graves and burial places	4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinterment [including 2a, 2b & 3]

Furthermore, the significance of archaeological sites was based on six main criteria:

- Site integrity (i.e. primary vs. secondary context),
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter),
- Social value,
- Uniqueness, and
- Potential to answer current and future research questions.



16 ADDENDUM 4: IMPACT ASSESSMENT METHODOLOGY

16.1 ISSUES IDENTIFICATION MATRIX

Impacts were rated and assessed using an Impact and Risk Assessment Methodology provided by CES, for the Scoping Phase of the EIA process in accordance with the requirement of EIA Regulations. Here, two parameters and five factors are considered when assessing the significance of the identified issues, and each is scored. **Significance** is achieved by ranking the five criteria presented in Table 1 below, to determine the overall significance of an issue. The ranking for the “effect” (which includes scores for duration; extent; consequence and probability) and reversibility / mitigation are then read off the matrix presented in Table 2 below, to determine the overall significance of the issue. The overall significance is either negative or positive.

- **Duration** - The temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.

- **Extent** - The spatial scale defines the physical extent of the impact.

- **Consequence** - The consequence scale is used in order to, as far as possible, objectively evaluate how severe a number of negative impacts associated with the issue under consideration might be, or how beneficial a number of positive impacts associated with the issue under consideration might be.

- The **probability** of the impact occurring - The likelihood of impacts taking place as a result of project actions arising from the various alternatives. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development and alternatives. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

➤ - **Reversibility / Mitigation** – The degree of difficulty of reversing and/or mitigating the various impacts ranges from easily achievable to very difficult. The four categories used are listed and explained in Table 1 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

16.2 ASSESSING IMPACTS

The CES rating scale used in this assessment takes into consideration the following criteria, and includes the new criteria for assessing post mitigation significance (residual impacts), by incorporating the principles of reversibility and irreplaceability:

- **Nature of impact** (Negative or positive impact on the environment).

- **Type of impact** (Direct, indirect and/or cumulative effect of impact on the environment).

- **Duration, Extent, Probability** (see Table 4 below)



Table 4: Duration, Extent, Probability

Duration (Temporal Scale)		Score
Short term	Less than 5 years	1
Medium term	Between 5-20 years	2
Long term	Between 20 and 40 years (a generation) and from a human perspective also permanent	3
Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there	4
Extent (Spatial Scale)		
Localised	At localised scale and a few hectares in extent	1
Study Area	The proposed site and its immediate environs	2
Regional	District and Provincial level	3
National	Country	3
International	Internationally	4
Probability (Likelihood)		
Unlikely	The likelihood of these impacts occurring is slight	1
May Occur	The likelihood of these impacts occurring is possible	2
Probable	The likelihood of these impacts occurring is probable	3
Definite	The likelihood is that this impact will definitely occur	4

- Severity or benefits

Table 5: Severity of Benefits

Impact Severity		Score
<i>(The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party)</i>		
Very severe	Very beneficial	4
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.	
Severe	Beneficial	3
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.	
Moderately severe	Moderately beneficial	2
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing the sewage treatment facility where there was vegetation with a low conservation value.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.	
Slight	Slightly beneficial	1
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.	
No effect	Don't know/Can't know	
The system(s) or party(ies) is not affected by the proposed development.	In certain cases it may not be possible to determine the severity of an impact.	

* In certain cases it may not be possible to determine the severity of an impact thus it may be determined: Don't know/Can't know



The scores for the three criteria in Table 4 and Table 5 above are added to obtain a composite score. They must then be considered against the severity rating to determine the overall significance of an activity. This is because the severity of the impact is far more important than the other three criteria. The overall significance is then obtained by reading off the matrix presented in the table below. The overall significance is either negative or positive (Criterion 1) and direct, indirect or cumulative (Criterion 2).

Table 6: Composite Duration, Extent, Probability Scores

SEVERITY	COMPOSITE DURATION, EXTENT & PROBABILITY SCORE										
	3	4	5	6	7	8	9	10	11	12	
Slight	3	4	5	6	7	8	9	10	11	12	
Mod severe	3	4	5	6	7	8	9	10	11	12	
Severe	3	4	5	6	7	8	9	10	11	12	
Very severe	3	4	5	6	7	8	9	10	11	12	

The **environmental significance** scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

Table 7: Overall Significance

OVERALL SIGNIFICANCE <i>(The combination of all the above criteria as an overall significance)</i>	
VERY HIGH NEGATIVE	VERY BENEFICIAL
These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects. <i>Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.</i> <i>Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.</i>	
HIGH NEGATIVE	BENEFICIAL
These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. <i>Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.</i> <i>Example: The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.</i>	
MODERATE NEGATIVE	SOME BENEFITS
These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial. <i>Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.</i>	
LOW NEGATIVE	FEW BENEFITS
These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect. <i>Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.</i> <i>Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.</i>	
NO SIGNIFICANCE	
There are no primary or secondary effects at all that are important to scientists or the public. <i>Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.</i>	
DON'T KNOW	
In certain cases it may not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information. <i>Example: The effect of a particular development on people's psychological perspective of the environment.</i>	



16.3 POST MITIGATION SIGNIFICANCE

Once mitigation measure is proposed, the following criteria are then used to determine the overall post mitigation significance of the impact:

- Reversibility: The degree to which an environment can be returned to its original/partially original state.
- Irreplaceable loss: The degree of loss which an impact may cause.

Mitigation potential: The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories used are listed and explained in Table 8 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

Table 8: Mitigation Potential

Reversibility	
<i>Reversible</i>	<i>The activity will lead to an impact that can be reversed provided appropriate mitigation measures are implemented.</i>
<i>Irreversible</i>	<i>The activity will lead to an impact that is permanent regardless of the implementation of mitigation measures.</i>
Irreplaceable loss	
<i>Resource will not be lost</i>	<i>The resource will not be lost/destroyed provided mitigation measures are implemented.</i>
<i>Resource will be partly lost</i>	<i>The resource will be partially destroyed even though mitigation measures are implemented.</i>
<i>Resource will be lost</i>	<i>The resource will be lost despite the implementation of mitigation measures.</i>
Mitigation potential	
<i>Easily achievable</i>	<i>The impact can be easily, effectively and cost effectively mitigated/reversed.</i>
<i>Achievable</i>	<i>The impact can be effectively mitigated/reversed without much difficulty or cost.</i>
<i>Difficult</i>	<i>The impact could be mitigated/reversed but there will be some difficulty in ensuring effectiveness and/or implementation, and significant costs.</i>
<i>Very Difficult</i>	<i>The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.</i>

16.4 MANAGEMENT AND MITIGATION ACTIONS

The following table provides a guideline of relevant heritage resources management actions is vital to the conservation of heritage resources.

No further action / Monitoring

Where no heritage resources have been documented, heritage resources occur well outside the impact zone of any development or the primary context of the surroundings at a development footprint has been largely destroyed or altered, no further immediate action is required. Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage\ remains are destroyed.



Avoidance

This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources.

Mitigation

This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g. the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.

Compensation

Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

Rehabilitation

Rehabilitation is considered in heritage management terms as an intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not appropriate when the process necessitates the removal of previous historical layers, i.e. restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.