
PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**THE SILVER STREAM-DUBENI STREAM CROSSING,
DUBENI (NEAR QUEENSTOWN),
CHRIS HANI DISTRICT MUNICIPALITY, EASTERN CAPE, SOUTH AFRICA**

DATE: 2014-04-18



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SPECIALIST DECLARATION OF INTEREST

I, Karen van Ryneveld (Company – ArchaeoMaps; Qualification – MSc Archaeology), declare that:

- I am suitably qualified and accredited to act as independent specialist in this application;
- I do not have any financial or personal interest in the application, its' proponent or any subsidiaries, aside from fair remuneration for specialist services rendered; and
- That work conducted has been done in an objective manner – and that any circumstances that may have compromised objectivity have been reported on transparently.



SIGNATURE –

DATE – 2014-04-18

PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
**THE SILVER STREAM-DUBENI STREAM CROSSING, DUBENI (NEAR QUEENSTOWN),
 CHRIS HANI DISTRICT MUNICIPALITY, EASTERN CAPE, SOUTH AFRICA**
 EXECUTIVE SUMMARY

TERMS OF REFERENCE –

Phila-EHS has been appointed by the consulting engineers, Eyethu, on behalf of the project proponent, the CHDM, to manage the HIA for the *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape. The HIA is done in retrospect: In order to have obtained EA a BAR and EMPr were prepared for the development by Terresco in 2010. Although heritage was included, in part, in environmental documentation, it does not comply with requirements of the NHRA 1999 or minimum standard requirements as stipulated by the SAHRA and the EC PHRA. Nor was heritage assessed by relevant professional heritage practitioners. ArchaeoMaps was appointed by Phila-EHS to conduct the Phase 1 AIA as specialist component to the project's HIA. The *Silver Stream-Dubeni Stream Crossing* development is situated at general development co-ordinate S31°44'34.7"; E27°00'54.9", in northern Dubeni village. Development comprises:

- o The construction of a new 76m long single lane bridge across the Silver Stream River;
- o Realignment of a combined 300m access road to connect the existing access road with the new bridge (and upgrading of an approximate 3km access road); and
- o Construction materials for the project were to be sourced from 2 borrow pits:
 SS-D_BP01: S31°45'38.5"; E27°01'12.5" and SS-D_BP02: S31°45'06.8"; E27°00'22.6".

THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT –

PROJECT AREA: The *Silver Stream-Dubeni Stream Crossing* development, Dubeni, EC [1:50,000 map ref – 3127CA & 3127CC].

COVERAGE & GAP ANALYSIS: Pre-feasibility and field assessment (bridge, access road and 2 borrow pits).

FIELD METHODOLOGY: One day field assessment; GPS co-ordinates – Garmin GPSmap 62s; Photographic documentation – Pentax K20D. Site significance assessment – SAHRA 2007 system.

SUMMARY:

Map Code	Site	Co-ordinates	Recommendations
<i>Silver Stream-Dubeni Stream Crossing, Dubeni village (near Queenstown), Eastern Cape - S31°44'34.7"; E27°00'54.9"</i>			
SSD-S1	Cemetery, Contemporary / Later Iron Age	S31°44'14.4"; E27°01'30.4"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting
SSD-S2	Structure, Colonial Period	S31°44'24.6"; E27°01'11.6"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting
SSD-S3	Cemetery, Contemporary / Later Iron Age	S31°44'32.5"; E27°00'57.0"	Site Conservation: 1) (Permanent & temporary conservation measures in place). 2) Permanent sign posting
SSD-S4	Cemetery, Contemporary / Later Iron Age	S31°44'37.4"; E27°00'58.0"	Site Conservation: 1) Realignment of existing temporary conservation measures. 2) Permanent sign posting
SSD-S5	Cemetery, Contemporary / Later Iron Age	S31°45'02.5"; E27°01'06.2"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting. 3) Reporting of site sensitivity to CHDM.
SSD-S6	Knapping Site, MSA (& LSA)	S31°45'39.3"; E27°01'12.9"	Site Conservation: 1) No development OR Site Destruction: 1) EC PHRA Site Destruction Permit
The Silver Stream-Dubeni Stream Crossing and 3km Access Road Upgrade: Site SSD-S1, SSD-S2, SSD-S3, SSD-S4 & SSD-S5			
Borrow Pit SS-D_BP01: Site SSD-S6			
Borrow Pit SS-D_BP02: N/A			

RECOMMENDATIONS –

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape, proceeds provided the developer comply with the above listed recommendations, together with any additional requirements, constraints or particulars that may be imposed on the development by the EC PHRA.

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1) TERMS OF REFERENCE

Phila-Environmental Health and Safety Specialists (Phila-EHS) has been appointed by the consulting engineers, Eyethu Engineers (Pty) Ltd (Eyethu), on behalf of the project proponent, the Chris Hani District Municipality (CHDM), to manage the Heritage Impact Assessment (HIA) for the *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape.

The HIA is done in retrospect: In order to have obtained Environmental Authorization (EA) a Basic Environmental Assessment Report (BAR) and Environmental Management Plan (EMPr) were prepared for the development by Terreco Environmental (Terreco) in 2010. Although heritage was included, in part, in environmental documentation, it does not comply with requirements of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999) or minimum standard requirements as stipulated by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Authority (EC PHRA). Nor was heritage assessed by relevant professional heritage practitioners. ArchaeoMaps was appointed by Phila-EHS to conduct the Phase 1 Archaeological Impact Assessment (AIA) as specialist component to the project's HIA.

The *Silver Stream-Dubeni Stream Crossing* development is situated at general development co-ordinate S31°44'34.7"; E27°00'54.9", in northern Dubeni village. Development comprises:

- The construction of a new 76m long single lane bridge across the Silver Stream River;
- Realignment of a combined 300m access road to connect the existing access road with the new bridge (and upgrading of an approximate 3km access road); and
- Construction materials for the project were to be sourced from 2 borrow pits:
 1. SS-D_BP01: S31°45'38.5"; E27°01'12.5"
 2. SS-D_BP02: S31°45'06.8"; E27°00'22.6".

❖ Development Location, Details and Impact

The *Silver Stream-Dubeni Stream Crossing* development is situated at S31°44'34.7"; E27°00'54.9" in northern Dubeni village, approximately 22km north-east of Queenstown, more or less 10km north along the T576 gravel road from its junction with the R396, via the R392 from Queenstown, in the Emalahleni Municipal area of the CHDM, Eastern Cape [1:50,000 Map Ref – 3127CA & 3127CC].

The general study area lies within a rural landscape, characterized by low density residential and primarily subsistence, but including commercial farming development resembling 'ribbon development' along the T576 gravel road. The general area comprises of Communal State Land and is zoned as 'communal farming'. The more immediate bridge terrain is characterized by the shallow boulder strewn stream of the Silver Stream River, situated within a ridge-bounded moderately wide river valley with the ridge lines being distinctive natural features of the landscape. Vegetation cover comprises primarily short to medium height vegetation (Terreco 2010a, 2010b).

Project motivation was based on the absence of a formal crossing structure at Dubeni, across the Silver Stream River, approximately 200m upstream from the confluence of the Silver Stream and the White Kei Rivers, with the original bridge having been damaged beyond repair during floods. In the interim a temporary 100m long concrete causeway for vehicles and a concrete pedestrian pathway provided short-term relief, but the T576 gravel road and crossing constitute a vital link between communities to the north of the Silver Stream and the R396/N6 corridor

and the loss of a formal bridge resulted in noticeable complications for both vehicles and pedestrians, particularly in poor weather conditions and during periods of floods and associated high water levels. The project objective was thus to provide a permanent formal bridge crossing for both vehicles and pedestrians thereby also enabling the removal of the defunct crossing structures. The proposed design considered relevant flood levels (1:50 and 1:100 year flood peak levels), very low traffic volumes and the minor status of the road in the road network, with the maximum design speed being 30-40km/h (Terreco 2010a, 2010b).

Taking into account the objective of the *Silver Stream-Dubeni Stream Crossing* development, the initial design comprised the following features (Terreco 2010a):

- *The construction of a new 76m long single lane bridge across the Silver Stream River:*
The new 76m long single lane crossing over the Silver Stream River was to be 4.5m wide, incorporating a single 1m wide pedestrian sidewalk, also housing service ducts. The bridge was to be positioned approximately 50m downstream of the original bridge crossing. Remaining features of the original bridge and temporary crossing were to be demolished, with the intention that the gravel roads either side of these structures would be decommissioned and the area rehabilitated.
- *Realignment of a combined 300m access road to connect the existing access road with the new bridge:*
The gravel road will be effectively shortened by approximately 68m on the southern or right hand side and by approximately 22m on the northern or left hand side of the Silver Stream River to connect to the new position of the bridge. The combined length of the two approaches to the bridge was to be 300m in length.
- *Construction materials for the project were to be sourced from 2 proposed borrow pits (both being approximately 1.5ha in size):*
 1. SS-D_BP01: S31°45'38.5"; E27°01'12.5"
 2. SS-D_BP02: S31°45'06.8"; E27°00'22.6"

Terreco (2010a) identified 2 grave sites during their field inspection, described as: *'Two graves were observed on the left bank of the Silver Stream adjacent to the gravel road and opposite the closest homestead to the existing bridge on the left bank of the watercourse. The project engineers are aware of these two graves and have made appropriate allowances in their design for the bridge and minor road alignments to avoid these sites.... There are no other sites of known cultural or historical significance in the vicinity of the area to be affected by the Project'*. Environmental Specifications (ES) for management of the graves were prescribed in the EMPr as (Terreco 2010b):

❖ ***Controlling Cultural Heritage / Historical and Archaeological Impacts:***

1. The existing graves (2) on the left bank of the Silver Stream are regarded as a 'Special or Sensitive Environment' and must be cordoned off as a 'No-Go Area';
2. The Contractor shall notify the Project Manager if any previously unidentified graves or artefacts of archaeological, historical or cultural significance are uncovered during site clearance or construction activities;
3. Work shall be stopped immediately and appropriate assessment of the artefact or feature shall be undertaken on the guidance of SAHRA; and
4. Known sites of historical, archaeological or cultural importance are 'Sensitive Areas' and will be designated 'No-Go Areas'.

Although it is evident that the Eyethu project team have complied with ES requirements as stated in the EMPr (Terreco 2010b) concerns remain regarding initial HIA requirements relevant to the BAR and EMPr of the project. The National Heritage Resources Act, No 25 of 1999 (NHRA 1999) is listed as relevant environmental legislation in

Appendix D of the EMPr. Section 38(1) of the NHRA 1999 defines development projects for which HIA's are compulsory, unless exemption therefor is given in writing by the relevant heritage resources authority as:

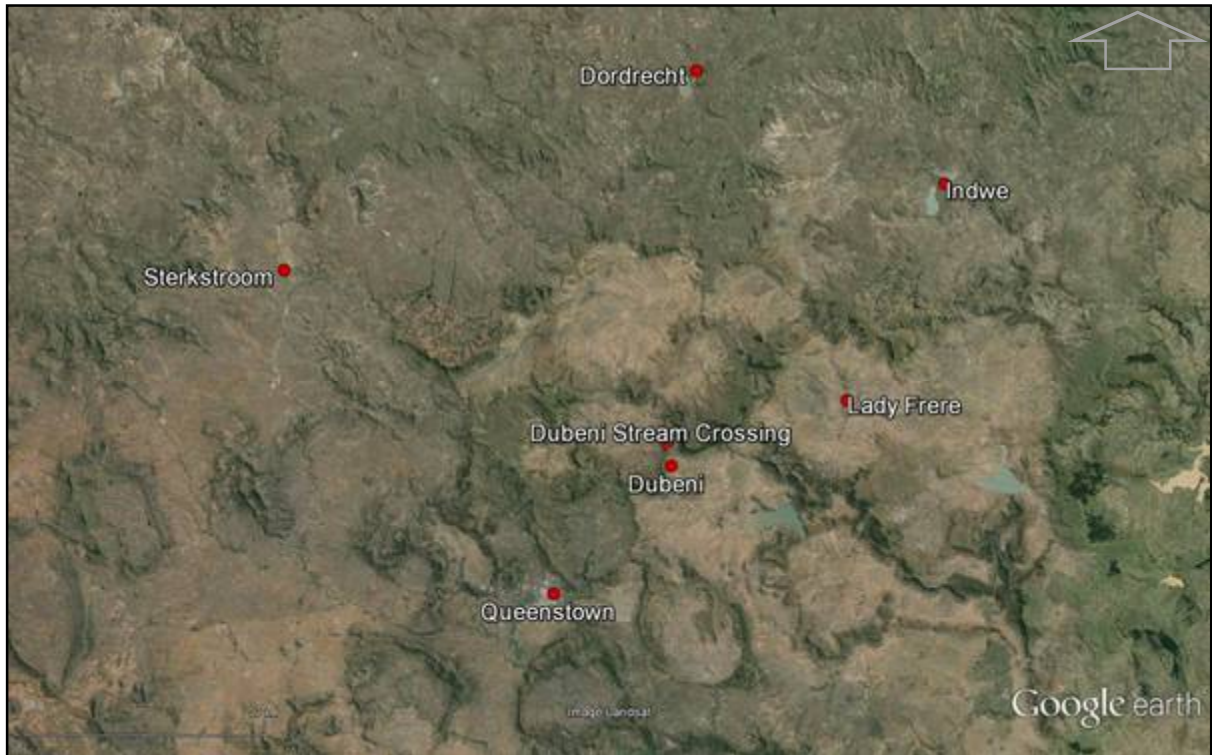
'Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorized as –

- a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;*
- b) the construction of a bridge or similar structure exceeding 50 m 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 subdivisions thereof which have been consolidated within the past five years; or*
 - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- d) the rezoning 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.'

In addition to legislative requirements for development the SAHRA (2007) guidelines defines the Phase 1-3 Heritage Impact Assessment (HIA) process. It stipulates minimum standards for heritage reports, including minimum standards for Phase 1 Archaeological (AIA) and Palaeontological Impact Assessments (PIA). The guidelines further elaborates on specialist heritage assessments including cultural landscapes, intangible heritage, Indigenous Knowledge Systems (IKS) and historical architecture and when these specialist heritage assessments are required as part of an HIA. SAHRA (National) and the EC PHRA (Eastern Cape province) accepts specialist HIA reports by professional heritage specialists, including archaeologists accredited with the Association of Southern African Professional Archaeologists' (ASAPA) Cultural Resources Management (CRM) Section and palaeontologists with professional Palaeontological Society of South Africa (PSSA) membership.

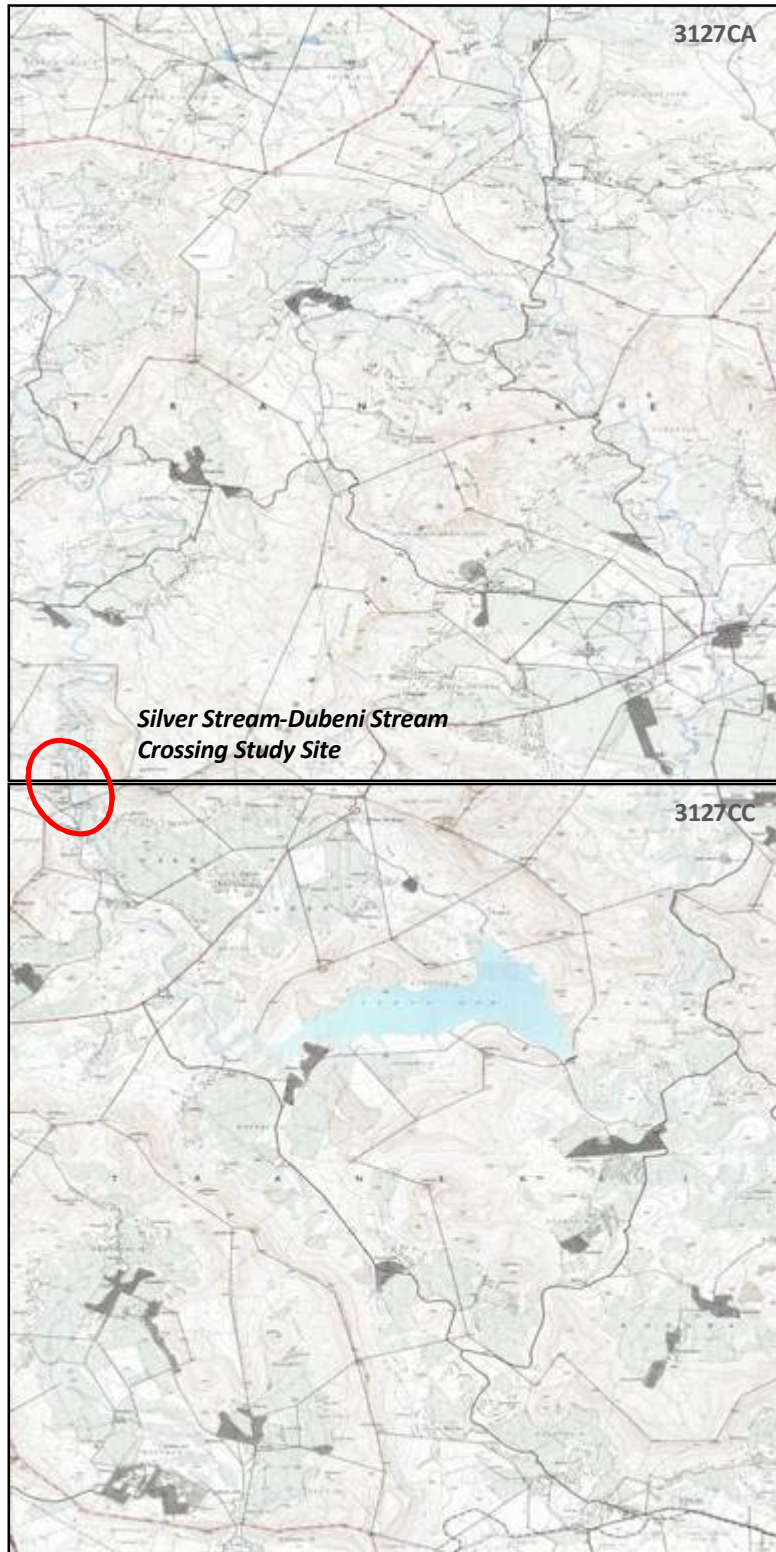
However, from the side of Terreco and Eyethu, a Notification of Intend to Develop (NID) was forwarded to SAHRA in 2010, but without response from SAHRA as stipulated in Section 38(2) and 38(3) of the NHRA 1999 (Pers. Comm.: Mel Dube, Project Engineer, Eyethu).



Map 1: Locality of the *Silver Stream-Dubeni Stream Crossing*, Dubeni, (near Queenstown), CHMD, Eastern Cape [1]



Map 2: Locality of the *Silver Stream-Dubeni Stream Crossing*, Dubeni, (near Queenstown), CHMD, Eastern Cape [2]



Map 3: Locality of the *Silver Stream-Dubeni Stream Crossing*, Dubeni, (near Queenstown), CHMD, Eastern Cape [1:50,000 map ref – 3127CA & 3127CC]

2) THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

❖ Archaeological Legislative Compliance

The Phase 1 Archaeological Impact Assessment (AIA) for the proposed *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape, was requested by the Eastern Cape Provincial Heritage Resources Authority (EC PHRA) in retrospect, in accordance with heritage requirements and in terms of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999), with specific reference to Sections 34-38.

Additional relevant environmental legislation pertaining to the HIA is listed as:

- National Environmental Management Act, No 107 of 1998 (NEMA 1998) and associated Regulations (2010);
- Mineral and Petroleum Resources Development Act, No 28 of 2002 (MPRDA 2002).

The Phase 1 AIA aimed to locate, identify and assess the significance of cultural heritage resources, inclusive of archaeological deposits / sites, built structures older than 60 years, burial grounds and graves, graves of victims of conflict and basic cultural landscapes or views as defined and protected by the NHRA 1999, that may be affected by the development.

This report comprises a Phase 1 AIA, including a basic pre-feasibility study and field assessment only.

❖ Methodology & Gap Analysis

The Phase 1 AIA includes a basic pre-feasibility study and field assessment:

- The pre-feasibility assessment is based on the Appendix 1 introductory archaeological literature. In addition the SAHRA 2009 Mapping Project Database (MPD), SAHRIS and the SAHRA Built Environment Database on Declared Provincial Heritage Sites (buildings older than 60 years) of the Eastern Cape were consulted. The study excludes consultation of the Albany Museum, the SAHRA accredited Data Recording Centre (DRC) for the Eastern Cape region's database.
- The field assessment was done over a 1 day period (2014-04-15). The assessment was done by foot and off-road vehicle and limited to a Phase 1 surface survey. GPS co-ordinates were taken with a Garmin GPSmap 62s (Datum: WGS84). Photographic documentation was done with a Pentax K20D camera. A combination of Garmap and Google Earth software was used in the display of spatial information.
- The Phase 1 AIA was done by Karen van Ryneveld and assisted by Gerhard Vlok.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT			
Site Significance	Field Rating	Grade	Recommended Mitigation
High Significance	National Significance	Grade I	Site conservation / Site development
High Significance	Provincial Significance	Grade II	Site conservation / Site development
High Significance	Local Significance	Grade III-A	Site conservation or extensive mitigation prior to development / destruction
High Significance	Local Significance	Grade III-B	Site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	Grade IV-A	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	Grade IV-B	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	Grade IV-C	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

Table 1: SAHRA archaeological and cultural heritage site significance assessment

❖ Assessor Accreditation

The assessment was done by Karen van Ryneveld (ArchaeoMaps):

- Qualification: MSc Archaeology (2003) WITS University.
- Accreditation:
 1. 2004 – Association of Southern African Professional Archaeologists (ASAPA) – Professional Member.
 2. 2005 – ASAPA CRM Section: Accreditation – Field Director (Iron Age, Colonial Period).
 3. 2010 – ASAPA CRM Section: Accreditation – Principle Investigator (Stone Age).

Karen van Ryneveld is a SAHRA / AMAFA / EC PHRA listed CRM archaeologist.

Karen has been involved in CRM archaeology since 2003 and has been the author (including selected co-authored reports) of more than 250 Phase 1 AIA studies. Phase 1 AIA work is centered in South Africa, focusing on the Northern and Eastern Cape provinces and the Free State. She has also conducted Phase 1 work in Botswana (2006/2007). In 2007 she started ArchaeoMaps, an independent archaeological consultancy. In 2010 she was awarded ASAPA Principle Investigator (PI) status based on large scale Phase 2 Stone Age mitigation work (De Beers Consolidated mines – Rooipoort, Northern Cape – 2008/2009) and has also been involved in a number of other Phase 2 projects including Stone Age, Shell Middens, Grave/Cemetery projects and Iron Age sites.

In addition to CRM archaeology she has been involved in research, including the international collaborations at Maloney's Kloof and Grootkloof, Ghaap plateau, Northern Cape (2005/2006). Archaeological compliance experience includes her position as Head of the Archaeology, Palaeontology and Meteorites (APM) Unit at AMAFA aKwa-Zulu Natali (2004).

2.1) PRE-FEASIBILITY ASSESSMENT

Based on the basic introductory literature assessment of South African archaeology (see Appendix – A) the probability of archaeological and cultural heritage sites within the proposed *Silver Stream-Dubeni Stream Crossing* study site at Dubeni village (near Queenstown), CHDM, Eastern Cape, can briefly be described as:

1. Early Hominin : Probability – *None*

2. Stone Age
 - a. ESA : Probability – *None-Low*
 - b. MSA : Probability – *Medium*
 - c. LSA : Probability – *Low-Medium* (Human remains may be expected; if identified of both scientific and social significance)
 - i. Rock Art : Probability – *None-Low*
 - ii. Shell Middens : Probability – *None*

3. Iron Age
 - a. Early Iron Age : Probability – *None-Low*
 - b. Middle Iron Age : Probability – *None*
 - c. Later Iron Age : Probability – *High*

4. Colonial Period
 - a. Colonial Period : Probability – *Medium* (Human remains expected to be primarily associated with formal cemeteries)
 - b. Iron Age / Colonial Period Contact : Probability – *Medium*
 - c. Industrial Revolution : Probability – *Low*

❖ The SAHRA 2009 Database & SAHRIS

Only 2 archaeological Cultural Resources Management (CRM) projects are recorded in the SAHRA 2009 Mapping Project Database (MPD) and situated within an approximate 40km radius from the *Silver Stream-Dubeni Stream Crossing* study site, listed as:

- Anderson, G. (Umlando). 2007. *The Archaeological Survey of the Elitheni Mine, Indwe, Eastern Cape*.
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2008. *Heritage Impact Assessment of Qoboshane Road, Bridge and Borrow Pits, Indwe, Eastern Cape Province, South Africa*.

A number of additional archaeological CRM studies are available on SAHRIS, the majority of which post-dates compilation of the SAHRA 2009 MPD, reflecting on increasing development in the general area and serving to further describe the greater receiving cultural environment of the *Silver Stream-Dubeni Stream Crossing* study site, including but not limited to:

- Anderson, G. (Umlando) 1996. *Archaeological Survey of the Proposed Route for the Kokstad – Mt. Frere Transmission Line.*
- Anderson, G. (Umlando). 2012a. *Heritage Survey of the Proposed Tsolwana Road Upgrade, Eastern Cape.*
- Anderson, G. (Umlando). 2012b. *Archaeological and Historical Database Survey along the Beta-Delphi Transmission Line.*
- Binneman, J. (ECHC). 2012. *A Letter of Recommendation (with Conditions) for the Exemption of a Full Phase 1 Archaeological Impact Assessment for the Proposed Dolerite Quarry on Unsurveyed State Land known as the Machubeni 3 – Allotment Area, near Indwe, Emalahleni Municipality, Eastern Cape Province.*
- Binneman, J., Booth, C. & Higgitt, N. (Albany Museum). 2011. *An Archaeological Desktop Study and Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Clidet Data Cable between Bloemfontein, Orange Free State and Graaf-Reinet, Eastern Cape Province; Colesberg, Orange Free State and Port Elizabeth, Eastern Cape Province; George, Western Cape Province and Port Elizabeth, Eastern Cape Province and Aliwal North and East London, Eastern Cape Province.*
- Booth, C. (Albany Museum). 2012. *A Phase 1 Archaeological Impact Assessment for Five Proposed Borrow Pits, Whittlesea Area near Queenstown, Lukhanji Local Municipality, Eastern Cape.*
- Huffman, T.N. (WITS – Archaeological Resources Management). 2011. *Heritage Assessment of the Queenstown Shopping Mall.*
- Prins, F. (Active Heritage). 2011. *Shell International Exploration and Production B.V. Draft Technical Report in Support of the EMP for the South Western Karoo Basin Gas Exploration Application Project. Cultural Heritage: Eastern Precinct.*
- Prins, F. & Hall, S. (Active Heritage). 2011a. *Cultural Heritage Impact Assessment of a Section of the National Route R61 between Umthatha and Queenstown and associated Quarry and Borrow Pits, Eastern Cape.*
- Prins, F. & Hall, S. (Active Heritage). 2011b. *Cultural Heritage Impact Assessment for the R61 Section 6 Road Upgrade Project, between Cofimvaba and Engcobo, Eastern Cape.*
- Smith, A.B. (UCT – Archaeology Department). 2010. *Archaeological Impact Assessment of the Proposed AB's Wind Energy Facility near Indwe, Eastern Cape.*
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❖ SAHRA Built Environment Database – Eastern Cape

Geo-referenced Declared Provincial Heritage Sites (buildings older than 60 years) situated within an approximate 40km radius from the *Silver Stream-Dubeni Stream Crossing* study site recorded in the SAHRA Built Environment – Eastern Cape database, can be listed and spatially displayed as:

SAHRA BUILT ENVIRONMENT – EASTERN CAPE					
Map Reference	SAHRA Identifier	Site name	Place	NHRA Status	Co-ordinates
BE-EC133	9/2/077/0003	Hexagon, Queenstown (Originally laid out in the centre of Queenstown for defence purposes - has remained the focal point of the town plan.)	Queenstown	Provincial Heritage Site	S31°53'46"; E26°52'16"
BE-EC134	9/2/077/0004	Old Municipal Market, 5 Hexagon, Queenstown	Queenstown	Provincial Heritage Site	S31°53'46"; E26°52'14"
BE-EC135	9/2/077/0005	Town Hall, Cathcart Road, Queenstown (Sandstone building designed by architect Sidney Stent and erected by the builders Male and Kirton. Cornerstone was laid on 24 May 1882 by the wife of Mayor D. S. Barrable.)	Queenstown	Provincial Heritage Site	S31°53'52"; E26°52'26"
BE-EC136	9/2/077/0008	Museum, Naude Street, Queenstown (Originally erected in 1868 as a primary school. Architectural style: Victorian.)	Queenstown	Provincial Heritage Site	S31°53'42"; E26°52'20"
BE-EC137	9/2/077/0009	Queens College, Berry Street, Queenstown (Original portion of the building complex designed in 1897 and the cornerstone laid on 15 September 1897. The school was extended in 1914 and again in 1919 and 1920.)	Queenstown	Provincial Heritage Site	S31°53'25"; E26°52'35"

Table 2: Declared Provincial Heritage sites in relation to the study site



Map 4: Declared Provincial Heritage sites in relation to the study site

❖ General Discussion

The Great Kei is formed by the confluence of the White Kei and the Black Kei Rivers, north-east of Cathcart, ending in the Great Kei estuary at the Indian Ocean and forming the historical border of the Transkei. The White Kei River originates north of Queenstown, with the Xonxa Dam comprising an important landmark within the White Kei. The Silver Stream River is a tributary of the White Kei with its confluence approximately 15km north-west of the Xonxa Dam (en.wikipedia.org/wiki/Great_Kei_River; en.wikipedia.org/wiki/White_Kei_River).

Earlier Stone Age (ESA) occurrences from the greater terrain were reported on by Anderson (1996) and Smith (2010), including the identification of handaxes and cleavers, often found in close proximity to, or as ex-situ components to Middle Stone Age (MSA) assemblages. Several instances of MSA sites and occurrences were reported on where deposits are characterized by MSA flakes, cores, scrappers and blades (Smith 2010, Van Ryneveld 2010a). Later Stone Age (LSA) reports from the general area are primarily research related; Derricourt (1977) documented painted rock shelters and other LSA archaeological sites in the surrounding area of Whittlesea, and towards Queenstown and Cathcart. The *Silver Stream-Dubeni Stream Crossing* study site is situated well beyond the boundary of LSA shell midden site distribution.

With reference to the Iron Age, Later Iron Age (LIA) sites constitutes the most prominent type site documented in consulted CRM reports, including numerous records of LIA homesteads, livestock enclosures and cemeteries and graves (Prins & Hall 2011a, Van Ryneveld 2010a, 2010b, 2011c, 2013b; Van Schalkwyk 2010), with more than 90 sites recorded during the *Xonxa Bulk and Reticulation Water Supply Scheme* assessment (van Ryneveld 2013a), just south of the *Silver Stream-Dubeni Stream Crossing* study site and with recorded evidence of continuing LIA cultural

practice (van Ryneveld 2010a, 2011c); demarcating the general area as particularly sensitive with reference to LIA cultural remains.

Colonial Period sites were reported on by Anderson (1996, 2012a), Huffman (2011) and Van Ryneveld (2010a, 2011c, 2012, 2013a), mostly comprising of Colonial Period structures and including a number of homesteads, churches, trading stores and shops, as well as cemeteries and graves.

Lady Frere, situated on the Cacadu River, was established in 1879 by Sir Henry Bartle Edward Frere (1815 – 1884) (en.wikipedia.org/wiki/Bartle_Frere), former Governor of Bombay, India, and Governor of the Cape Colony from 1877-1880. The town was administered by a village council from 1886, and became a municipality in 1900. Lady Frere now comprises several villages including Kundulu, Xonxa, Mkhaphusi, Matyhantya, Misheko, Machibini, Tshatshu and Gqebanya, to name a few (en.wikipedia.org/wiki/Lady_Frere).

Queenstown, named after Queen Victoria, was founded in early 1853 and named under the direction of Sir George Cathcart. Situated on the Komani River, the layout of the town reflects its original objective as a defensive stronghold for the Frontier area: The hexagon that today forms the center of town was used during Colonial Period times as a point where canon and rifle fire could be directed down six thoroughfares radiating from the center of town (en.wikipedia.org/wiki/Queenstown,_Eastern_Cape).

2.2) FIELD ASSESSMENT

Six archaeological and cultural heritage sites, as defined and protected by the NHRA 1999, were identified during the field assessment of the *Silver Stream-Dubeni Stream Crossing* study site, labelled Sites SSD-S1 to SSD-S6. Of the identified sites 4 comprise of cemetery sites (Sites SSD-S1, SSD-S3, SSD-S4 and SSD-S5), with the additional 2 sites being a Colonial Period site (Site SSD-S2) and a Middle Stone Age (MSA) site (Site SSD-S6) respectively.

All cemetery sites were identified by the Eyethu project team prior to the field assessment with temporary conservation measures already in place at Sites SSD-S3 and SSD-S4, the sites closest to new Silver Stream-Dubeni stream crossing bridge alignment, where construction work is underway. Post EA of the *Silver Stream-Dubeni Stream Crossing* development, Eyethu was approached by the CHDM to extend the original 300m access road upgrade to approximately 3km from general co-ordinate S31°44'13.5"; E27°01'31.2" in the north to S31°45'14.3"; E27°01'08.2" in the south (Pers. Comm.: Mel Dube, Project Engineer, Eyethu): Eyethu intends to commence with construction of the road upgrade upon completion of the bridge: Construction on the road upgrade has thus not yet started at the time of the field assessment. Two further cemeteries were identified by the Eyethu project team along the 3km road upgrade alignment, including Site SSD-S1 towards the north and Site SSD-S5 towards the southern extremity of the alignment. Colonial Period Site SSD-S2 is situated slightly south from Site SSD-S1 along the proposed access road upgrade alignment.

Eyethu originally considered exploration of 2 borrow pits, labelled SS-D_BP01 and SS-D_BP02. To date only material from Borrow Pit SS-D_BP02 have been sourced for construction, for various reasons but including limited availability of material at Borrow Pit SS-D_BP01 and with little variation in material between the 2 borrow pits. However, geotechnical tests on the SS-D_BP01 material is ongoing, and should the need arise Eyethu might make use of material from SS-D_BP01 in addition to construction material sourced from SS-D_BP02 during project maturation (Pers. Comm.: Mel Dube, Project Engineer, Eyethu). MSA (& LSA) Stone Age deposits, labelled Site SSD-S6, characterised limited surface in-tact areas at the Borrow Pit SS-D_BP01 area.

Site descriptions are given as per development aspect and including:

- The *Silver Stream-Dubeni Stream Crossing* and 3km Access Road Upgrade: Sites SSD-S1 to SSD-S5;
- Borrow Pit SS-D_BP01: Site SSD-S6; and
- Borrow Pit SS-D_BP02: N/A.

Heritage management recommendations focus strongly on site conservation within the framework of development: With specific reference to cemetery sites, site conservation rather than Phase 2 mitigation (Grave Relocation) is encouraged, despite the fact that standard SAHRA / EC PHRA heritage conservation buffer zones of 30-50m cannot be met. It is requested that standard heritage conservation buffer zones and standard practice of formal site conservation (permanent fences with access gates) be waved in favour of minimal conservation buffer zones and light-weight temporary conservation measures, supplemented merely by permanent sign-posting. This in part to meet development, but more specifically to ensure Later Iron Age (LIA) cultural continuity (living heritage) where burial in close proximity to the homestead and appeasement of ancestors are still much valued cultural customs in a culture where settlement pattern has re-arranged itself since LIA times to centre along access roads for trade and thoroughfare. Minimization of permanent conservation fences aims to address reported cases where local communities found fencing for heritage / development purposes 'offensive', specifically in cases where heritage sites are still in use, as is the case with all of the recorded cemetery sites of the *Silver Stream-Dubeni Stream Crossing* study site.



Map 5: Results of the Silver Stream-Dubeni Stream Crossing field assessment (tracklog – white)



Plate 1: View of the temporary crossing structure across the Silver Stream



Plate 3: View of the new Silver Stream-Dubeni bridge [1]



Plate 2: Large anthropogenic sterile sections of the Silver Stream River in the vicinity of the new Silver Stream-Dubeni bridge alignment



Plate 4: View of the new Silver Stream-Dubeni bridge [2]

2.2.1. The Silver Stream–Dubeni Stream Crossing and 3km Access Road Upgrade

- ❖ Site SSD-S1: Cemetery, Contemporary / Later Iron Age – S31°44'14.4"; E27°01'30.4"



Map 6: Locality of Site SSD-S1

Site SSD-S1 is situated west of the access road and the applicable homestead and comprises a small family cemetery consisting of 3 graves, 2 being modern style graves and 1 mound and stone outlined grave. Graves are fairly recent, of the Contemporary Period and belonging to the Later Iron Age (LIA) tradition of burial in close proximity to the homestead. No additional graves were located during brief assessment down to the anthropogenic sterile banks of the Silver Stream River. The Site SSD-S1 cemetery is situated immediately west of the access road, not allowing more than an approximate 3m conservation buffer.

- **Recommendations:** The Site SSD-S1 family cemetery is formally protected by the NHRA 1999 and is ascribed a SAHRA / EC PHRA *High Significance* and a *Generally Protected IV-A Field Rating*. It is recommended that the site be conserved within the framework of the road upgrade development despite limitations on conservation buffer zone requirements rather than consideration of a Phase 2 mitigation (Grave Relocation) project as heritage management option.

Site Conservation:

1. It is recommended that the site be temporarily fenced with construction netting prior to development impact in the vicinity of the site allowing for a rough 2-3m conservation buffer between the graves and the fence;
2. Temporary conservation measures should be removed upon completion of construction;
3. The site should be permanently sign-posted (i.e. metal sign board on treated wooden or metal pole), indicating that the site is formally protected by the NHRA 1999. Signage should be done in English or English and Xhosa. Recommended inscription for sign-post:

Site SSD-S1 – Cemetery
Silver Stream-Dubeni Stream Crossing (Eyethu Engineers)
This site is protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999)



Plate 5: View of Site SSD-S1 [1]



Plate 7: View of Site SSD-S1 [3]



Plate 6: View of Site SSD-S1 [2]



Plate 8: View of the Silver Stream River just south-west of Site SSD-S1

- ❖ Site SSD-S2: Structure, Colonial Period – S31°44'24.6"; E27°01'11.6"



Map 7: Locality of Site SSD-S2

Site SSD-S2 constitutes the ruined remains of a rectangular Colonial Period residential structure, measuring approximately 8x5m in size. The structure is characterized by its visible sandstone foundation with washed mud-brick walls. Door and window wooden lintels are still visible but with the door, windows and roof having been removed or having weathered away in the interim. The interior of the 2 roomed structure displayed a simple interior; an approximate 1.8m high wall with doorway partition divided the interior space, with the smaller of the rooms having been a kitchen with the original fireplace still clearly visible. Based on architectural style the vernacular structure may well date to the late 1800's.

Two stone built rectangular livestock enclosures are situated within approximately 30m from the Site SSD-S2 remains, to the south and east respectively, both measuring roughly 10x6m in size, with a small calf encampment of more or less 3x4m attached to the southern 'kraal'. These livestock enclosures may well be associated with the Site SSD-S2 Colonial Period structure, but in which case it is evident that useful structures or structure remains were reused by Later Iron Age (LIA) peoples as they moved into the area, providing for a probable example of cultural overlay.

- **Recommendations:** The Site SSD-S2 Colonial Period vernacular structure pre-dates 60 years of age and is formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site is however architecturally ascribed a *Medium Significance* with *Generally Protected IV-B Field Rating*. The site will not be negatively impacted by the access road upgrade, but close proximity of the site to the study area and existing access road does call for caution:

Site Conservation:

1. It is recommended that the site be temporarily fenced with construction netting prior to development impact in the vicinity of the structure allowing for a rough 2-3m conservation buffer around the structure, being the maximum conservation buffer allowed by existing access road alignment;

2. Temporary conservation measures should be removed upon completion of construction;
3. The site should be permanently sign-posted (i.e. metal sign board on treated wooden or metal pole), indicating that the site is formally protected by the NHRA 1999. Signage should be done in English or English and Xhosa. Recommended inscription for sign-post:

Site SSD-S2 – Colonial Period Structure

Silver Stream-Dubeni Stream Crossing (Eyethu Engineers)

This site is protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999)



Plate 9: View of Site SSD-S2 with a livestock enclosure in the background [1]



Plate 11: Close-up of the Site SSD-S2 entrance



Plate 10: View of Site SSD-S2 with a livestock enclosure in the background [2]



Plate 12: Interior view of Site SSD-S2

- ❖ Site SSD-S3: Cemetery, Contemporary / Later Iron Age – $S31^{\circ}44'32.5''$; $E27^{\circ}00'57.0''$



Map 8: Locality of Site SSD-S3

Site SSD-S3 is situated east of the access road and applicable homestead and immediately north-east of the new Silver Stream-Dubeni bridge alignment. The site comprises a small, formally fenced family cemetery containing 2 graves. Contemporary graves include a modern style and a mound and stone outlined grave, with a stone headstone. Current conservation measures, including a permanent fence with access gate comply with SAHRA / EC PHRA Minimum Site Conservation Standards, albeit without observation of standard conservation buffer zone requirements. The cemetery fence is situated immediately adjacent to the access road. Additional temporary development conservation measures include construction netting along the eastern, southern and western side of the permanent fence, visually clearly demarcating the site, specifically towards the construction and access road areas. (Site SSD-S3 comprises the 2 graves initially reported on in Terreco 2010a, 2010b).

- **Recommendations:** The Site SSD-S3 family cemetery is formally protected by the NHRA 1999 and is ascribed a SAHRA / EC PHRA *High Significance* and a *Generally Protected IV-A Field Rating*. Current conservation measures including a permanent fence with access gate comply with SAHRA / EC PHRA Minimum Site Conservation Standards, albeit without observation of standard conservation buffer zone requirements. It is recommended that the site be conserved within the framework of the road upgrade development rather than consideration of a Phase 2 mitigation (Grave Relocation) project as heritage management option.

Site Conservation:

1. Current temporary conservation measures should be removed upon completion of construction;
2. The site should be permanently sign-posted (i.e. metal sign board on treated wooden or metal pole), indicating that the site is formally protected by the NHRA 1999. Signage should be done in English or English and Xhosa. Recommended inscription for sign-post:

Site SSD-S3 – Cemetery
 Silver Stream-Dubeni Stream Crossing (Eyethu Engineers)
 This site is protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999)



Plate 13: Close-up of the 2 Site SSD-S3 graves



Plate 15: General view of the Site SSD-S3 graves



Plate 14: Signage at the traditional style grave



Plate 16: General view of the formally fenced Site SSD-S3 cemetery

- ❖ Site SSD-S4: Cemetery, Contemporary / Later Iron Age – $S31^{\circ}44'37.4''$; $E27^{\circ}00'58.0''$



Map 9: Locality of Site SSD-S4

Site SSD-S4 comprises a family cemetery where temporary conservation measures were applied to 3 identified graves, including 2 modern style graves (1 being a simple brick and cement outlined grave) and 1 traditional style mound and stone outlined grave. Inspection of the cemetery area indicated that additional stone outlined graves are present, much older than the 3 temporary fenced graves. Current temporary conservation measures crosses over a settled stone outlined grave, while additional ephemeral stone outlines may indicate at least 2 more graves west of the fenced area. The rocky area where these ephemeral stone outlines were observed may well obscure additional older grave demarcations. In conclusion at least 6 graves are present at the site, with the older ephemeral grave demarcations indicating significant age to the site. Temporal depth at the cemetery is supported by a large circular stone built livestock enclosure no more than 40m south-west of the cemetery, and evidently still in use. Additional circular livestock enclosures situated further south along the access road, albeit at a fair distance from the access road to ensure their conservation, supports the inference of significant time depth relating to Later Iron Age (LIA) occupation of the area.

It is recommended that the temporary conservation fence currently in place be removed and realigned in an east-west orientation following the access road alignment to ensure that all graves are conserved. Development in the area will include an upgrade to the existing storm water channel, running alongside the access road alignment and at present comprising an earth trench. The storm water channel will be upgraded to an open stone-lined structure. Recommended realignment of the temporary conservation fence will suffice for cemetery conservation purposes during upgrading of the access road and the storm water trench in the vicinity of the site. With reference specifically to the storm water trench it needs to be noted that this will, upon completion of the project, provide additional safeguarding to the site with specific reference to the curbing of possible erosion that may encroach on the site as a result of storm water runoff.

Positioning of the northern most graves, closest to the access road allows for a no more than rough 2m conservation buffer between the graves and the storm water trench.

- **Recommendations:** The Site SSD-S4 family cemetery is formally protected by the NHRA 1999 and is ascribed a SAHRA / EC PHRA *High Significance* and a *Generally Protected IV-A Field Rating*. It is recommended that the site be conserved within the framework of the road and storm water trench upgrade development despite limitations on conservation buffer zone requirements rather than consideration of a Phase 2 mitigation (Grave Relocation) project as heritage management option.

Site Conservation:

1. It is recommended that the current temporary fence be removed and realigned in an east-west orientation following the road alignment for the tenure of road and storm water upgrades in the vicinity of the site, allowing for an approximate maximum 2m conservation buffer between the northern most graves and the storm water trench;
2. Temporary conservation measures should be removed upon completion of construction;
3. The site should be permanently sign-posted (i.e. metal sign board on treated wooden or metal pole), indicating that the site is formally protected by the NHRA 1999. Signage should be done in English or English and Xhosa. Recommended inscription for sign-post:

Site SSD-S4 – Cemetery
 Silver Stream-Dubeni Stream Crossing (Eyethu Engineers)
 This site is protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999)



Plate 17: The temporary fenced Site SSD-S4 cemetery with a large circular stone livestock enclosure in the background



Plate 19: Additional stone outlined graves at Site SSD-S4



Plate 18: A stone outline grave partially impacted by the temporary fence



Plate 20: The existing storm water trench, immediately north of Site SSD-S4

- ❖ Site SSD-S5: Cemetery, Contemporary / Later Iron Age – $S31^{\circ}45'02.5''$; $E27^{\circ}01'06.2''$



Map 10: Locality of Site SSD-S5

At least 24 mound and stone outlined traditional style graves were counted at the Site SSD-S5 family cemetery, but more may well be present. Graves are arranged in rough linear alignment along an approximate 60m stretch from site co-ordinate $S31^{\circ}45'02.5''$; $E27^{\circ}01'06.2''$ in the north to more or less $S31^{\circ}45'04.5''$; $E27^{\circ}01'06.5''$ in the south. The cemetery is situated on a high rise along the access road, with an approximate 3-5m strip between the graves and the access road and with the eastern side of the cemetery typified by erosion sections, providing for high ground before the approximate 50+cm fall down to the remainder of the landscape.

Likely following Later Iron Age (LIA) tradition of burial inside a livestock enclosure, the southern portion of the site is characterized by a rectangular shaped alignment of aloe, demarcating the outline of a former stone built livestock enclosure. This area is typified by the more random positioning of graves, many of which are difficult to discern due to settled earth mounds, disturbed and earth covered stone outlines and thick vegetation. The southern portion of the site thus inferred to represent the older part of the cemetery. Towards the north of the site graves follow a neat, linear placing, with easily identified grave demarcations and with some of the graves displaying inscribed stone headstones indicating that this portion of the site contain fairly recent graves: The Site SSD-S5 family cemetery thus a notable example of continuing LIA cultural tradition.

Proximity to the access road as well as evidence of erosion, albeit not having yet impacted on graves remain a cause of concern. Again it would be impossible to maintain standard SAHRA / EC PHRA heritage conservation buffer zone requirements. Road upgrading in the vicinity of the site will involve construction of a more formal storm water channel next to the road, curbing lessor erosion impact to the west of the cemetery while Eyethu is proposing the closest storm water outlet more than 100m south of the site; construction effort that will radically minimize the current threat of erosion along the eastern boundary of the site. Additional erosion rehabilitation along the eastern boundary of the site is not necessary at this point in time. It is however advised that sensitivity of the site be reported on by Eyethu to the CHDM, to ensure that monitoring of erosion can be done, for ex. through road maintenance contracts.

- **Recommendations:** The Site SSD-S5 cemetery is formally protected by the NHRA 1999 and is ascribed a SAHRA / EC PHRA *High Significance* and a *Generally Protected IV-A Field Rating*. It is recommended that the site be conserved within the framework of development despite limitations on conservation buffer zone requirements rather than consideration of a Phase 2 mitigation (Grave Relocation) project as heritage management option.

Site Conservation:

1. It is recommended that the site be temporarily fenced with construction netting prior to development impact in the vicinity of the cemetery allowing for a rough 3-5m conservation buffer around the cemetery, being the maximum conservation buffer allowed by the existing access road alignment;
2. Temporary conservation measures should be removed upon completion of construction;
3. The site should be permanently sign-posted (i.e. metal sign board on treated wooden or metal pole), indicating that the site is formally protected by the NHRA 1999. Signage should be done in English or English and Xhosa. Recommended inscription for sign-post:
 - Site SSD-S5 – Cemetery
 - Silver Stream-Dubeni Stream Crossing (Eyethu Engineers)
 - This site is protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999)
4. Eyethu should report sensitivity of the site, with specific reference to the erosion threat to the CHDM to ensure relevant monitoring thereof, for ex. through CHDM road maintenance contracts.



Plate 21: A row of stone outlined graves, northern part of the site



Plate 23: Older, settled, stone outlined graves at Site SSD-05



Plate 22: A stone outlined grave with inscribed headstone, northern part of the site



Plate 24: Aloes demarking the southern extremity of the site and the former livestock enclosure boundary, containing the older graves of Site SSD-05

2.2.2. Borrow Pit SS-D_BP01

- ❖ Site SSD-S6: Knapping Site, MSA (& LSA) – S31°45'39.3"; E27°01'12.9"



Map 11: General locality of Borrow Pit SS-D_BP01 and Site SSD-S6

The Borrow Pit SS-D_BP01 study site has largely been worked out, with little material for construction purposes remaining. Pending further geotechnical test Eyethu may need to make use of the site.

Excavation at the site yielded large sections, in excess of 1m high and mainly anthropogenically sterile, with a shallow approximate 7-10cm top cultural layer identifiable to the south-west of the site and with lithic artefacts still visible on the surface towards the east and south-west. Surface artefacts were visible on a small narrow strip along the south-western boundary of the site, but along the eastern strip small clusters of surface artefacts are primarily found eroding down erosion gullies and in churned dump material. A rough artefact density, gathered from the better context deposits towards the south-western strip approximates an artefact ration (artefacts: m²) of 8:1, implying original fairly high artefact densities. Typologically artefacts can be ascribed to the Middle Stone Age (MSA); a Voman (1984) MSA 2b – MSA3, with an admixture of macrolithic Later Stone Age (LSA) lithics. Types include cores, flakes, scrapers, a few flake-blade samples together with knapping *debitage*, comprising primarily of waste flakes and chunks, in cased reshaped and re-used. Raw material used include primarily fine grained granite, but also sandstone, jasperlite, baked shales and a number of siliceous and metamorphic stones, inferred to have been sourced locally, perhaps directly from a former small outcrops at the site locale. The site has however largely already been destroyed by former quarrying impact, with little of mitigatory value left. Anthropogenic sterile surface areas along the south-eastern part of the study site indicate a former notably confined Stone Age knapping site.

- **Recommendations:** MSA (& LSA) lithic deposits at Site SSD-S6 are protected by the NHRA 1999. The site has however largely already been destroyed by former borrowing activities. Remaining deposits at Site SSD-06 is ascribed a SAHRA / EC PHRA *Low Significance* and a *Generally Protected IV-C Field Rating*.

Site Conservation:

1. Conservation of remaining lithic deposits at Site SSD-06 implies no development at the site.

OR

Site Destruction:

1. In the event that Eyethu would need to make use of material from the Borrow Pit SS-D_BP01 site the developer should ensure that destruction of the SSD-S6 lithic deposits be done under an EC PHRA APM Unit *Site Destruction Permit*.



Plate 25: Section towards the south-west of the Borrow Pit SS-D_BP01 study site with an approximate 7-10cm top anthropogenic member



Plate 26: Narrow section with surface artefacts along the south-western boundary of the site



Plate 27: Ex-situ artefacts in an erosion gully context, the eastern boundary of the borrow pit



Plate 28: Selected artefacts from Site SSD-06

2.2.3. Borrow Pit SS-D_BP02



Map 12: General locality of Borrow Pit SS-D_BP02

The Borrow Pit SS-D_BP02 study site was characterized by large, in excess of 3m anthropogenic sterile sections with large parts of the study site still being virgin land; typified by rocky outcrops. Infrequent artefacts were found amongst the rocky surface, produced from mixed raw material including sandstone, fine grained granite, baked shale and limited siliceous stone. Densities were however so low, with a rough artefact ratio (artefacts: m²) description being in the region of $\leq 1: 225$, implying that only a few lithics were identified across the total of the study site. Artefacts seem to belong to the MSA, but extremely low densities do not allow a better interpretation. Extremely low densities of Stone Age artefacts cannot be classed as a 'site' or 'occurrence' as defined and protected by the NHRA 1999.

- **Recommendations:** It is recommended that development proceed at the Borrow Pit SS-D_BP02 study site without the developer having to apply for an EC PHRA APM Unit *Site Destruction Permit* (based on extremely low densities of artefacts at the site, not complying with the definition of a Stone Age 'site' or 'occurrence', implying that the area is not formally protected by the NHA 1999.)



Plate 29: General view of the Borrow Pit SS-D_BP02 study site [1]



Plate 31: General view of the Borrow Pit SS-D_BP02 study site [2]



Plate 30: Surface artefacts at the Borrow Pit SS-D_BP02 study site



Plate 32: Selected artefacts from the Borrow Pit SS-D_BP02 study site

3) RECOMMENDATIONS

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape, proceeds provided the developer comply with the below listed recommendations, together with any additional requirements, constraints or particulars that may be imposed on the development by the EC PHRA.

[It is recommended that a photographic record of heritage compliance be submitted to the EC PHRA].

PHASE 1A1A – SILVER STREAM-DUBENI STREAM CROSSING DEVELOPMENT, DUBENI VILLAGE (NEAR QUEENSTOWN), EASTERN CAPE			
Map Code	Site	Co-ordinates	Recommendations
<i>Silver Stream-Dubeni Stream Crossing, Dubeni village (near Queenstown), Eastern Cape - S31°44'34.7"; E27°00'54.9"</i>			
SSD-S1	Cemetery, Contemporary / Later Iron Age	S31°44'14.4"; E27°01'30.4"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting
SSD-S2	Structure, Colonial Period	S31°44'24.6"; E27°01'11.6"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting
SSD-S3	Cemetery, Contemporary / Later Iron Age	S31°44'32.5"; E27°00'57.0"	Site Conservation: 1) (Permanent & temporary conservation measures in place). 2) Permanent sign posting
SSD-S4	Cemetery, Contemporary / Later Iron Age	S31°44'37.4"; E27°00'58.0"	Site Conservation: 1) Realignment of existing temporary conservation measures. 2) Permanent sign posting
SSD-S5	Cemetery, Contemporary / Later Iron Age	S31°45'02.5"; E27°01'06.2"	Site Conservation: 1) Temporary conservation measures. 2) Permanent sign posting. 3) Reporting of site sensitivity to CHDM.
SSD-S6	Knapping Site, MSA (& LSA)	S31°45'39.3"; E27°01'12.9"	Site Conservation: 1) No development OR Site Destruction: 1) EC PHRA Site Destruction Permit
The Silver Stream-Dubeni Stream Crossing and 3km Access Road Upgrade: Site SSD-S1, SSD-S2, SSD-S3, SSD-S4 & SSD-S5			
Borrow Pit SS-D_BP01: Site SSD-S6			
Borrow Pit SS-D_BP02: N/A			

Table 3: Archaeological and cultural heritage compliance summary for the *Silver Stream-Dubeni Stream Crossing* development at Dubeni village (near Queenstown), CHDM, Eastern Cape.

NOTES:

- Should any archaeological or cultural heritage resources, including human remains / graves, as defined and protected by the NHRA 1999, and not reported on in this report be identified during the course of development the developer should immediately cease operation in the vicinity of the find and report the site to the EC PHRA and an ASAPA accredited CRM archaeologist. Human remains confirmed younger than 60 years are to be reported directly to the nearest police station.
- Should any registered Interested & Affected Party (I&AP) wish to be consulted in terms of Section 38(3)(e) of the NHRA 1999 (Socio-cultural consultation / SAHRA SIA) it is recommended that the developer / EAP ensures that the consultation be prioritized within the timeframe of the Environmental Impact Assessment (EIA).

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INTRODUCTION TO THE ARCHAEOLOGY OF SOUTH AFRICA

Archaeologically the southern African cultural environment is roughly divided into the Stone Age, the Iron Age and the Colonial Period, including its subsequent Industrial component. This cultural division has a rough temporal association beginning with the Stone Age, followed by the Iron Age and the Colonial Period. The division is based on the identified primary technology used. The hunter-gatherer lifestyle of the Stone Age is identified in the archaeological record through stone being the primary raw material used to produce tools. Iron Age people, known for their skill to work iron and other metal, also practiced agriculture and animal husbandry. Kingdoms and civilizations associated with the Iron Age are indicative of a complex social hierarchy. The Colonial Period is marked by the advent of writing, in southern Africa primarily associated with the first European travelers (Mitchell 2002).

During the latter part of the Later Stone Age (LSA) hunter-gatherers shared their cultural landscape with both pastoralists and Iron Age people, while the advent of the Colonial Period in South Africa is marked by a complex cultural mosaic of people; including LSA hunter-gatherers, pastoralists, Later Iron Age farming communities and Colonial occupation.

1) EARLY HOMININ EVOLUTION

DNA studies indicate that humans and chimpanzees shared a common ancestor between 6-8Mya (Sibley & Ahlquist 1984). By 4Mya, based on fossil evidence from Ethiopia and Kenya, hominins (humans and their immediate fossil ancestors and relatives) had already evolved. The earliest fossils are ascribed to *Ardipithecus ramidus* (4.4Mya), succeeded by *Australopithecus anamensis* (4.2-3.9Mya). These fossils are inferred to lie at the base from which all other hominins evolved (Leakey *et al.* 1995; White *et al.* 1994).

In South Africa the later hominins are classed into 3 groups or distinct genera; *Australopithecus* (gracile australopithecines), *Paranthropus* (robust australopithecines) and *Homo*. South Africa has 3 major hominin sites: Taung in the North-West Province, where Raymond Dart identified the first *Australopithecus* fossil in 1924 (Dart 1925); The Cradle of Humankind (Sterkfontein Valley) sites in Gauteng, the most prolific hominin locality in the world for the period dating 3.5-1.5Mya which have yielded numerous *Australopithecus*, *Paranthropus* and limited *Homo* fossils (Keyser *et al.* 2000; Tobias 2000); and Makapansgat in the Limpopo Province, where several more specimens believed to be older than most of the Cradle specimens were discovered (Klein 1999).

A. africanus, represented at all 3 sites are believed to have been present on the South African landscape from about 3Mya. From approximately 2.8Mya they shared, at least in the Cradle area, the landscape with *P. robustus* and from roughly 2.3Mya with early forms of *Homo* (Clarke 1999). Global climatic cooling around 2.5Mya may have stimulated a burst of species turnover amongst hominins (Vrba 1992); the approximate contemporary appearance of the first stone tools suggests that this was a critical stage in human evolution. But exactly which early hominin population is to be accredited as the ancestor of *Homo* remains elusive.

H. ergaster is present in the African palaeo-anthropological record from around 1.8Mya and shortly thereafter the first exodus from Africa is evidenced by *H. erectus* specimens from China, Indonesia and even Europe (Klein 1999).

2) THE STONE AGE

2.1) The Earlier Stone Age

In South Africa the only Earlier Stone Age (ESA) Oldowan lithic assemblage comes from Sterkfontein Cave. The predominant quartz assemblage is technologically very simple, highly informal and inferred to comprise exclusively of multi-purpose tools (Kuman *et al.* 1997). The latter part of the ESA is characterized by the Acheulean Industrial Complex, present in the archaeological record from at least 1.5Mya. Both *H. ergaster* and *P. robustus* may be accredited with the production of these tools. The association between stone tools and increased access to meat and marrow supporting the greater dietary breadth of *Homo* may have been vital to *Homo's* evolutionary success; and the eventual extinction of the robust australopithecines (Klein 1999).

Probably the longest lasting artefact tradition ever created by hominins, the Acheulean is found from Cape Town to north-western Europe and India, occurring widely in South Africa. Despite the many sites it is still considered a 'prehistoric dark age' by many archaeologists, encompassing one of the most critical periods in human evolution; the transition from *H. ergaster* to archaic forms of *H. Sapiens* (Klein 1999).

The Acheulean industry is characterized by handaxes and cleavers as *folilles directeurs* (signatory artefact types), in association with cores and flakes. Handaxes and cleavers were multi-purpose tools used to work both meat and plant matter (Binneman & Beaumont 1992). Later Acheulean flaking techniques involved a degree of core preparation that allowed a single large flake of predetermined shape and size to be produced. This

Victoria West technique indicates an origin within the Acheulean for the *Levallois technique* of the Middle Stone Age (Noble & Davidson 1966). The lithic artefact component was supplemented by wood and other organic material (Deacon 1970).

2.2) The Middle Stone Age

The Middle Stone Age (MSA), dating from approximately 500kya to 40-27/23kya is interpreted as an intermediate technology between the Acheulean and the Later Stone Age (LSA) (Goodwin & van Riet Lowe 1929). The MSA is typologically characterized by the absence of handaxes and cleavers, the use of prepared core techniques and the production of blades, triangular and convergent flakes, with convergent dorsal scars and faceted striking platforms, often produced by means of the *Levallois technique* (Volman 1984). The widespread occurrence of MSA technology across Africa and its spread into much of Eurasia in Oxygen Isotope Stage (OIS) 7 is viewed as part of a process of population dispersal associated with both the ancestors of the later Neanderthals in Europe and anatomically modern humans in Africa (Foley & Lahr 1997).

After the riches offered by the Cradle sites and Makapansgat, southern Africa's Middle Pleistocene fossil record is comparatively poor. Early Middle Pleistocene fossil evidence suggests an archaic appearance and fossils are often assigned to *H. heidelbergensis* and *H. sapiens rhodesiensis* (Rightmire 1976). Modern looking remains, primarily from Border Cave (KwaZulu-Natal) and Klasies River Mouth (Eastern Cape) raised the possibility that anatomically modern humans had, by 120kya, originated south of the Sahara before spreading to other parts of the world (Brauer 1982; Stringer 1985). Subsequent studies of modern DNA indicated that African populations are genetically more diverse and probably older than those elsewhere (Cann *et al.* 1994). Combined, the fossil and genetic evidence underpins the so-called *Out of Africa 2* model (arguing that gene flow and natural selection led regional hominin populations along distinct evolutionary trajectories after *Homo's* expansion from Africa in the Lower Pleistocene *Out of Africa 1* model) of modern human origins and the continuing debate as to whether it should be preferred to its *Multiregional* alternative (arguing that modern humans evolved more or less simultaneously right across the Old World) (Mellars & Stringer 1989; Aitken *et al.* 1993; Nitecki & Nitecki 1994).

Persuasive evidence of ritual activity or bodily decoration is evidenced by the widespread presence of red ochre at particularly MSA 2 sites (after Volman's 1984 MSA 1-4 model; Hensilwood & Sealy 1997), while evidence from Lion Cave, Swaziland, indicates that specularite may have been mined as early as 100kya (Beaumont 1973). Evidence for symbolic behavioral activity is largely absent; no evidence for rock art or formal burial practices exists.

2.3) The Later Stone Age

Artefacts characteristic of the Later Stone Age (LSA) appear in the archaeological record from 40/27-23kya and incorporates microlithic as well as macrolithic assemblages. Artefacts were produced by modern *H. sapien* or *H. sapien sapien*, who subsisted on a hunter-gatherer way of life (Deacon 1984; Mitchell 2002).

According to Deacon (1984) the LSA can temporally be divided into 4 broad units directly associated with climatic, technological and subsistence changes:

1. Late Pleistocene microlithic assemblages (40-12kya);
2. Terminal Pleistocene / early Holocene non-microlithic assemblages (12-8kya);
3. Holocene microlithic assemblages (8kya to the Historic Period); and
4. Holocene assemblages with pottery (2kya to the Historic Period) closely associated with the influx of pastoralist communities into South Africa (Mitchell 2002).

Elements of material culture characteristic of the LSA reflect modern behavior. Deacon (1984) summarizes these as:

1. Symbolic and representational art (paintings and engravings);
2. Items of personal adornment such as decorated ostrich eggshell, decorated bone tools and beads, pendants and amulets of ostrich eggshell, marine and freshwater shells;
3. Specialized hunting and fishing equipment in the form of bows and arrows, fish hooks and sinkers;
4. A greater variety of specialized tools including bone needles and awls and bone skin-working tools;
5. Specialized food gathering tools and containers such as bored stone digging stick weights, carrying bags of leather and netting, ostrich eggshell water containers, tortoiseshell bowls and scoops and later pottery and stone bowls;
6. Formal burial of the dead in graves (sometimes covered with painted stones or grindstones and accompanied by grave goods);
7. The miniaturization of selected stone tools linked to the practice of hafting for composite tools production; and
8. A characteristic range of specialized tools designed for making some of the items listed above.

➤ Rock Art

Rock Art is one of the most visible and informative components of South Africa's archaeological record. Research into LSA ethnography (as KhoiSan history) has revolutionized our understanding of both painted and engraved (petroglyph) images, resulting in a paradigm shift in Stone Age archaeology (Deacon & Dowson 2001). Paintings are concentrated in the Drakensberg / Maluti mountains, the eastern Free State, the Cape Fold Mountains, the Waterberg Plateau and the Soutpansberg mountains. Engravings on the other hand are found throughout the Karoo, the western Free State and North-West Province (Mitchell 2002). Both forms of LSA art drew upon a common stock of motifs, derived from widely shared beliefs and include a restricted range of naturalistically depicted animals, geometric imagery, human body postures and non-realistic combinations of human and animal figures (anthropomorphic figurines). LSA Rock Art is closely associated with spiritual or magical significance (Lewis-Williams & Dowson 1999).

Aside from LSA or KhoiSan Rock Art, thus art produced by both hunter-gatherer and pastoralist and agro-pastoralist groups, Rock Art produced by Iron Age populations are known to be present towards the north of the country.

➤ Shell Middens ('Strandloper' Cultures)

South Africa's nearly 3,000km coastline is dotted by thousands of shell middens, situated between the high water mark and approximately 5km inland, bearing witness to long-term exploitation of shellfish mainly over the past 12,000 years. These LSA shell middens are easily distinguishable from natural accumulations of shells and deposits can include bones of animals eaten such as shellfish, turtles and seabirds, crustaceans like crabs and crayfish and marine mammal remains of seals, dolphins and occasionally whales. Artefacts and hearth and cooking remains are often found in shell midden deposits. Evidence exist that fish were speared, collected by hand, reed baskets and by means of stone fish traps in tidal pools (Mitchell 2002).

Shell midden remains were in the past erroneously assigned to 'Strandloper cultures'. Deacon & Deacon (1999) explain that '*no biological or cultural group had exclusive rights to coastal resources.*' Some LSA groups visited the coast periodically while others stayed year round and it is misleading to call them all by the same name. Two primary sources of archaeological enquiry serves to shed more light on the lifestyles of people who accumulated shell middens, one being the analysis of food remains in the middens itself and the other being the analysis of LSA human skeletal remains of people buried either in shell middens or within reasonable proximity to the coast.

Shell middens vary in character ranging from large sites tens of meters in extent and with considerable depositional depth to fairly small ephemeral collections, easily exposed and destroyed by shifting dune action. Shell middens are also found inland, along rivers where fresh water mussels occur. These middens are often fairly small and less common; in the Eastern Cape often dated to within the past 3,000 years (Deacon & Deacon 1999).

In addition shell middens are not exclusively assigned to LSA cultures; shellfish were exploited during the Last Interglacial, indicating that the practice was most probably continuous for the past 120,000 years (MSA shell middens). Along the coast of KwaZulu-Natal evidence exist for the exploitation of marine food resources by Iron Age communities. These shell middens are easily distinguished from Stone Age middens by particularly rich, often decorated ceramic artefact content. Colonial Period shell middens are quite rare and extremely ephemeral in character; primarily the result of European shipwreck survivors and reported on along the coast of KwaZulu-Natal and the Transkei, Eastern Cape.

3) THE IRON AGE

For close to 2 millennia people combining cereal agriculture with stock keeping have occupied most of southern Africa's summer rainfall zone. The rapid spread of farming, distinctive ceramics and metallurgy is understood as the expansion of a Bantu-speaking population, in archaeological terms referred to as the Iron Age.

3.1) The Early Iron Age

Ceramic typology is central to current discussions of the expansion of iron using farming communities. The most widely used approach is that of Huffman (1980), who employs a multidimensional analysis (vessel profile, decoration layout and motif) to reconstruct different ceramic types. Huffman (1998) argues that ceramics can be used to trace the movements of people, though not necessarily of specific social or political groupings. Huffman's Urewe Tradition coincides largely with Phillipson's (1977) Eastern Stream. A combined Urewe Tradition / Eastern Stream model for the Early Iron Age can be summarized as:

1. The Kwale branch (extending along the coast from Kenya to KwaZulu-Natal);
2. The Nkope branch (located inland and reaching from southern Tanzania through Malawi and eastern Zambia into Zimbabwe); and
3. The Kalundu branch (stretching from Angola through western Zambia, Botswana and Zimbabwe into South Africa).

In southern Africa, recent work distinguishes two phases of the Kwale branch: The earlier Silver Leaves facies (250-430AD) occurring as far south as the Northern Province. The later expression or Mzonjani facies (420-580AD) occurs in the Northern Province as well as along the KwaZulu-Natal coastal belt (Huffman 1998). Since the Silver Leaves facies is only slightly younger than the Kwale type site in Kenya, very rapid movement along the coast, perhaps partly by boat, is inferred (Klapwijk 1974). Subsequently (550-650AD) people making Mzonjani derived ceramics settled more widely in the interior of South Africa.

Assemblages attributable to the Nkope branch appear south of the Zambezi but north of South Africa from the 5th Century. Ziwa represents an early facies, with Gokomere deriving jointly from Ziwa and Bambata. A subsequent phase is represented by the Zhizo facies of the Shashe-Limpopo basin, and by Taukome (Huffman 1994). Related sites occur in the Kruger National Park (Meyer 1988). Zhizo (7th – 10th Century) is ancestral to the Toutswe tradition which persisted in eastern Botswana into the 13th Century.

Kalundu origins need further investigation; its subsequent development is however better understood. A post Bambata phase is represented by the 5th – 7th Century sites of Happy Rest, Klein Africa and Maunatlana in the Northern Province and Mpumalanga (Prinsloo 1974, 1989). Later phases are present at the Lydenburg Heads site (Whitelaw & Moon 1996) and by the succession of Mzuluzi, Ndondonwane and Ntshekane in KwaZulu-Natal (7th – 10th Centuries) (Prins & Grainger 1993). Later Kalundu facies include Klingbeil and Eiland in the northern part of the country (Evers 1980) with Kgopolwe being a lowveld variant in Mpumalanga (10th – 12th Century). Broadhurst and other sites indicate a still later survival in Botswana (Campbell 1991).

Despite the importance accorded to iron agricultural implements in expanding the spread of farming and frequent finds of production debris, metal objects are rare. Metal techniques were simple, with no particular sign of casting, wire drawing or hot working. Jewelry (bangles, beads, pendants etc.) constitute by far the largest number of finds but arrows, adzes, chisels, points and spatulae are known (Miller 1996).

Early Iron Age people were limited to the Miombo and Savannah biomes; excluded from much of the continent's western half by aridity and confined in the south during the 1st millennium to bushveld areas of the old Transvaal. Declining summer rainfall restricted occupation to a diminishing belt close to the East Coast and north of S33° (Maggs 1994); sites such as Canasta Place (800AD), Eastern Cape, mark the southern-most limit of Early Iron Age settlement (Nogwaza 1994).

➤ The Central Cattle Pattern

The Central Cattle Pattern (CCP) was the main cognitive pattern since the Early Iron Age (Huffman 1986). The system can be summarized as opposition between male pastoralism and female agriculture; ancestors and descendants; rulers and subjects; and men and women. Cattle served as the primary means of transaction; they represented symbols exchanged for the fertility of wives, legitimacy of children and appeasement of ancestors. Cattle were also used as tribute to rulers confirming sub-ordination and redistribution as loan cattle by the ruler to gain political support. Cattle represented healing and fertilizing qualities (Huffman 1998; Kuper 1980).

This cognitive and conceptual structure underlies all cultural behavior, including the placement of features in a settlement. The oppositions of male and female, pastoralism and agriculture, ancestors and descendants, rulers and subjects, cool and hot are represented in spatial oppositions, either concentric or diametric (Huffman 1986).

A typical CCP village comprise of a central cattle enclosure (byre) where men are buried. The *Kgotla* (men's meeting place / court) is situated adjacent to the cattle enclosure. Surrounding the enclosure is an arc of houses, occupied according to seniority. Around the outer perimeter of the houses is an arc of granaries where women keep their pots and grinding stones (Huffman 1986). The model varies per ethnic group which helps to distinguish ethnicity throughout the Iron Age, but more studies are required to recognize the patterns.

3.2) The Middle Iron Age

The hiatus of South African Middle Iron Age activity was centered in the Shashe-Limpopo Valley and characterized by the 5-tier hierarchical Mapungubwe State spanning some 30,000km². By the 1st millennium ivory and skins were already exported overseas, with sites like Sofala and Chibueni, Mosambique, interfacing between interior and transoceanic traders. Exotic glass beads, cloth and Middle Eastern ceramics present at southern African sites mark the beginning of the regions incorporation into the expanding economic system that, partly tied together with maritime trading links across the Indian Ocean, increasingly united Africa, Asia and Europe long before Da Gama or Columbus (Eloff & Meyer 1981; Meyer 1998).

Occupation was initially focused at Bambandanyalo and K2. The Bambandanyalo main midden (1030-1220AD) stands out above the surrounding area, reaching more than 6m in places and covering more than 8ha the site may have housed as many as 2,000 people (Meyer 1998). The CCP was not strictly followed; whether this is ideologically significant or merely a reflection of local typography remains unclear. The midden, the size of which may reflect the status of the settlement's ruler, engulfed the byre around 1060-1080AD, necessitating relocation of

the cattle previously kept there. The re-organization of space and worldview implied suggests profound social changes even before the sites' abandonment in the early 13th century, when the focus of occupation moved to Mapungubwe Hill, 1 km away (Huffman 1998).

Excavations at Mapungubwe Hill, though only occupied for a few decades (1220-1290AD), yielded a deep succession of gravel floors and house debris (Eloff & Meyer 1981). Huffman (1998) suggests that the suddenness with which Mapungubwe was occupied may imply a deliberate decision to give spatial expression to a new social order in which leaders physically removed themselves from ordinary people by moving onto more inaccessible, higher elevations behind the stone walls demarcating elite residential areas. Social and settlement changes speak of considerable centralization of power and perhaps the elaboration of new ways of linking leaders and subjects.

At Bambandanyalo and Mapungubwe elite burial grave goods include copper, bone, ivory and golden ornaments and beads. Social significance of cattle is reinforced by their importance among the many human and animal ceramic figurines and at least 6 'beast burials' (Meyer 1998).

Today the drought prone Shashe-Limpopo Valley receives less than 350mm of rainfall per annum, making cereal cultivation virtually impossible. The shift to drier conditions in the late 1200's across the Shashe-Limpopo basin and the eastern Kalahari may have been pivotal in the break-up of the Mapungubwe polity, the collapse of Botswana's Toutswe tradition and the emergence of Great Zimbabwe (1220-1550AD), southern Africa's best known and largest (720ha) archaeological site (Meyer 1998).

South of the Limpopo and north of the Soutpansberg, Mapungubwe derived communities survived into the 14th Century, contemporary with the establishment of Sotho-speaking makers of Maloko pottery.

3.3) The Later Iron Age

South African farming communities of the 2nd millennium experienced increased specialization of production and exchange, the development of more nucleated settlement patterns and growing political centralization, albeit not to the same extent as those participating in the Zimbabwe tradition. However, together they form the background to the cataclysmic events of the late 18th / early 19th Century *Mfecane* (Mitchell 2002).

Archaeological evidence of settlement pattern, social organization and ritual practice often differ from those recorded ethnographically. The Moloko ceramic tradition seems to be ancestral to modern Sotho-Tswana speakers (Evers 1980) and from about 1,100AD a second tradition, the Blackburn tradition, appears along South Africa's eastern coastline. Blackburn produced mostly undecorated pottery (Davies 1971), while Mpambanyoni assemblages, reaching as far south as Transkei, includes examples of rim notching, incised lines and burnished ochre slip (Robey 1980). At present, no contemporary farming sites are known further inland in KwaZulu-Natal or the Eastern Cape.

Huffman (1989) argues that similarities between Blackburn and early Maloko wares imply a related origin, presumably in the Chifumbaze of Zambia or the Ivuna of Tanzania, which contains a range of ceramic attributes important in the Blackburn as well as beehive grass huts similar to those made by the Nguni. This is one of the few suggestions of contact between Sotho-Tswana and Nguni speakers on the one hand and farming communities who, if Huffman is correct, were already long established south of the Limpopo. Both ethnographic and archaeological data demonstrate that Sotho-Tswana and Nguni are patrilineal and organize their settlements according to the CCP (Kuper 1980).

From 1,300AD there is increasing evidence for the beginning of agro-pastoralist expansion considerably beyond the area of previous occupation. It is also to this time that the genealogies of several contemporary Bantu speaking groups can be traced (Wilson & Thompson 1969). Associated with this expansion was the regular employment of stone, rather than wood, as building material, an adaptation that has greatly facilitated the discovery and identification of settlements. Maggs (1976) describes 4 basic settlement types all characterized by the use of semi weathered dolomite to produce hard binding *daga* for house floors and a wall building tradition employing larger more regular stones for the inner and outer faces and smaller rubble for the infill. As with the more dispersed homesteads of KwaZulu-Natal and the Eastern Cape, sites tend to be in locally elevated situations, reflecting a deep seated Sotho and Nguni preference for benign higher places rather than supernaturally dangerous riverside localities; another important contrast to both 1st millennium (Maggs 1976) and later Zulu Kingdom settlement patterns (Hall & Maggs 1979).

The lack of evidence for iron production in the interior and eastern part of South Africa emphasize exchange relationships between various groups and associated more centralized polities. By the 19th Century iron production in KwaZulu-Natal was concentrated in particular clans and lineages and associated with a range of social and religious taboos (Maggs 1992). South of Durban comparatively few smelting sites are known (Whitelaw 1991), a trend even more apparent in Transkei (Feely 1987). However, metal remained the most important and archaeologically evident item traded between later farming communities. (Other recorded trade items include glass and ostrich eggshell beads; Indian Ocean seashells; siltstone pipes; *dagga*, and later on tobacco; pigments including ochre, graphite and specularite; hides and salt.) Rising polity settlements are particularly evident in the north of the country and dated to the 17th Century, including Molokwane, capital of the Bakwena chiefdom (Pistorius 1994) and Kaditshwene, capital of a major section of the Hurutshe, whose population of 20,000 in 1820 almost

equals contemporary Cape Town in size (Boeyens 2000). The agglomeration of Tswana settlements in the north of the country was fuelled by both population growth and conflict over access to elephant herds for ivory and long distance trade with the East Coast. During this period ceramic decoration became blander and more standardized than the earlier elaborate decoration that included red ochre and graphite coloring.

The *Mfecane* refers to the wars and population movements of the early 19th Century which culminated in the establishment of the Zulu Kingdom and came to affect much of the interior, even beyond the Zambezi: The late 18th Century was marked by increasing demands for ivory (and slaves) on the part of European traders at Delagoa Bay; as many as 50 tones of ivory were exported annually from 1750-1790. As elephant populations declined, competition increased both for them and for the post 1790 supply of food to European and American whalers calling at Delagoa Bay (Smith 1970). Cattle raiding, conflict over land and changes in climatic and subsistence strategies characterized much of the cultural landscape of the time.

Competition for access to overseas trade encouraged some leaders to replace locally organized circumcision schools and age-sets with more permanently maintained military regiments. These were now used to gain access through warfare to land, cattle and stored food. By 1810 three groups, the Mthethwa, Ndwandwe and Ngwane dominated northern KwaZulu-Natal (Wright 1995). The Mthethwa paramountcy was undermined by the killing of its leader Dingiswayo in *circa* 1818, which led to a brief period of Ndwandwe dominance. In consequence one of Dingiswayo's former tributaries, Shaka, established often forceful alliances with chiefdoms further south. Shaka's Zulu dominated coalition resisted the Ndwandwe who in return fled to Mozambique. As the Zulu polity expanded it consolidated its control over large areas, incorporating many communities into it. Others sought refuge from political instability by moving south of the Thukela River, precipitating a further *domino effect* as far as the Cape Colony's eastern border (Wright 1995).

4) THE COLONIAL PERIOD

In the 15th Century Admiral Zheng He and his subordinates impressed the power of the Ming Dynasty rulers in a series of voyages as far afield as Java, Sri Lanka, southern Arabia and along the East African coast, collecting exotic animals *en route*. But nothing more came of his expeditions and China never pursued opportunities for trade or colonization (Mote 1991).

Portuguese maritime expansion began around the time of Zheng He's voyages; motivated by a desire to establish a sea route to the riches of the Far East. By 1485 Diogo Cao had reached Cape Cross, 3 years later Bartolomeu Dias rounded the Cape of Good Hope and less than a decade later Vasco da Gama called at several places along South Africa's coast, trading with Khoekhoen (Khoi) at Mossel Bay before reaching Mozambique and crossing the ocean to India. His voyage initiated subsequent Portuguese bases from China to Iraq. In Africa interest was focused on seizing important coastal trading towns such as Sofala and gaining access to the gold of Zimbabwe. Following the 1510 Portuguese-Khoekhoen battle at Table Bay, in which the viceroy of India was killed, Portuguese ships ceased to call along the South African coast (Elphick 1985).

A number of shipwrecks, primarily along the eastern coast attest to Portuguese activity including the Sao Joao, wrecked in 1552 near Port Edward and the Sao Bento, destroyed in 1554 off the Transkei coast. Survivors' accounts provided the 1st detailed information on Africa's inhabitants (Auret & Maggs 1982).

By the late 1500's Portuguese supremacy of the Indian Ocean was threatened. From 1591 numerous Dutch and English ships called at Table Bay and in 1652 the Dutch East Indian Company (VOC) established a permanent base, with the intent to provide fresh food and water to VOC ships. In an attempt to improve the food supply a few settlers (free burghers) were allowed to establish farms. The establishment of an intensive mixed farming economy failed due to shortages of capital and labor, and free burghers turned to wheat cultivation and livestock farming. While the population grew slowly the area of settlement expanded rapidly with new administrative centers established at Stellenbosch (1676), Swellendam (1743) and Graaf-Reinet (1785). By the 1960's the Colony's frontier was too long to be effectively policed by VOC officials (Elphick 1985).

From the 1700's many settlers expanded inland over the Cape Fold Mountain Belt. The high cost of overland transport constrained the ability to sell their produce while settlement of the interior was increasingly made difficult by resident KhoiSan groups, contributing due to a lack of VOC military support to growing Company opposition in the years before British control of the Cape (1795 / 1806) (Davenport & Saunders 2000).

In 1820 a major British settlement was implanted on the eastern frontier of the Cape Colony, resulting in large numbers of the community moving into the interior, initially to KwaZulu-Natal, and then after Britain annexed Natal (1843), further into the interior to beyond the Vaal River. Disruptions of the *Mfecane* eased their takeover of African lands and the *Boers* (farmers) established several Republics. A few years later the 2nd South African War saw both the South African and Orange Free State Republics annexed by Britain, a move largely motivated by British desire to control the goldfields of the Witwatersrand. With adjacent regions of the sub-continent also falling, directly or indirectly, under British rule and German colonization of Namibia, European control of the whole of southern Africa was firmly established before the 1st World War (Davenport & Saunders 2000).

➤ Xhosa Iron Age Cultures meets Colonists in the Eastern Cape

From the late 1600's conflict between migrants from the Cape (predominantly Boers) and Xhosa people in the region of the Fish River were strife, ultimately resulting in a series of 9 Frontier Wars (1702-1878) (Milton 1983). Both cultures were heavily based and reliant on agriculture and cattle farming. As more Cape migrants, and later settlers from Britain (1820) and elsewhere arrived, population pressures and competition over land, cattle and good grazing became intense. Cattle raiding became endemic on all sides, with retaliatory raids launched in response. As missionaries arrived with evangelical messages, confrontations with hostile chiefs who saw them as undermining traditional Xhosa ways of life resulted in conflicts which flared into wars.

As pressures between the European settlers and the Xhosa grew, settlers organized themselves into local militia, counteracted by Xhosa warring skills: But both sides were limited by the demands of seasonal farming and the need for labor during harvest. Wars between the Boers and the Xhosa resulted in shifting borders, from the Fish to the Sundays River, but it was only after the British annexed the Cape in 1806 that authorities turned their attention to the Eastern regions and petitions by the settlers about Xhosa raids. British expeditions, in particular under Colonel John Graham in 1811 and later Harry Smith in 1834, were sent not only to secure the frontier against the Xhosa, but also to impose British authority on the settlers, with the aim to establish a permanent British presence. Military forts were built and permanently manned. Over time the British came to dominate the area both militarily and through occupation with the introduction of British settlers. The imposition of British authority led to confrontations not only with the Xhosa but also with disaffected Boers and other settlers, and other native groups such as the Khoikhoi, the Griqua and the Mpondo. The frontier wars continued over a period of about 150 years; from the 1st arrival of the Cape settlers, and with the intervention of the British military ultimately ending in the subjugation of the Xhosa people. Fighting ended on the Eastern Cape frontier in June 1878 with the annexation of the western areas of the Transkei and administration under the authority of the Cape Colony (Milton 1983).

➤ The Industrial Revolution

The Industrial Revolution refers roughly to the period between the 18th - 19th Centuries, typified by major changes in agriculture, manufacturing, mining, transport, and technology. Changing industry had a profound effect on socio-economic and socio-cultural conditions across the world: The Industrial Revolution marks a major turning point in human history; almost every aspect of daily life was eventually influenced in some way. Average income and population size began to exhibit unprecedented growth; in the two centuries following 1800 the world's population increased over 6-fold, associated with increasing urbanization and demand of resources. Starting in the latter part of the 18th century, the transition from manual labor towards machine-based manufacturing changed the face of economic activity; including the mechanization of the textile industries, the development of iron-making techniques and the increased use of refined coal. Trade expansion was enabled by the introduction of canals, improved roads and railways. The introduction of steam power fuelled primarily by coal and powered machinery was underpinned by dramatic increases in production capacity. The development of all-metal machine tools in the first two decades of the 19th century facilitated the manufacture of more production machines in other industries (More 2000).

Effects of the Industrial Revolution were widespread across the world, with its enormous impact of change on society, a process that continues today as 'industrialization'.

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EXTRACTS FROM THE NATIONAL HERITAGE RESOURCES ACT, NO 25 OF 1999

DEFINITIONS

Section 2

In this Act, unless the context requires otherwise:

- ii. *“Archaeological”* means –
 - a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
 - b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10 m of such representation;
 - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic,... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- viii. *“Development”* means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –
 - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
 - b) carrying out any works on or over or under a place;
 - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
 - d) constructing or putting up for display signs or hoardings;
 - e) any change to the natural or existing condition or topography of land; and
 - f) any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. *“Grave”* means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. *“Living heritage”* means the intangible aspects of inherited culture, and may include –
 - a) cultural tradition;
 - b) oral history;
 - c) performance;
 - d) ritual;
 - e) popular memory;
 - f) skills and techniques;
 - g) indigenous knowledge systems; and
 - h) the holistic approach to nature, society and social relationships.
- xxxi. *“Palaeontological”* means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace;
- xli. *“Site”* means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. *“Structure”* means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

NATIONAL ESTATE

Section 3

- 1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- 2) Without limiting the generality of subsection 1), the national estate may include –
 - 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 natural features of cultural significance;
 - e) geological sites of scientific or cultural importance;
 - f) archaeological and palaeontological sites;
 - g) graves and burial grounds, including –
 - i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict;
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
 - h) sites of significance relating to the history of slavery in South Africa;
 - i) movable objects, including –

- i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
- ii. objects to which oral traditions are attached or which are associated with living heritage;
- iii. ethnographic art and objects;
- iv. military objects;
- v. objects of decorative or fine art;
- vi. objects of scientific or technological interest; and
- vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

STRUCTURES

Section 34

- 1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

ARCHAEOLOGY, PALAEOLOGY AND METEORITES

Section 35

- 3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- 4) 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 assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- 5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may –
 - a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph a) to apply for a permit as required in subsection 4); and
 - d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

BURIAL GROUNDS AND GRAVES

Section 36

- 3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority –
 - a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - c) bring onto or use at a burial ground or grave referred to in paragraph a) or b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

- 6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
- a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-internment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

HERITAGE RESOURCES MANAGEMENT

Section 38

- 2) 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 300 m in length;
 - b) the construction of a bridge or similar structure exceeding 50 m 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 subdivisions thereof which have been consolidated within the past five years; or
 - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - d) the rezoning 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.
- 3) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
- a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - b) notify the person concerned that this section does not apply.
- 4) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection 2a) ...
- 5) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development decide –
- a) whether or not the development may proceed;
 - b) any limitations or conditions to be applied to the development;
 - c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - e) whether the appointment of specialists is required as a condition of approval of the proposal.

APPOINTMENT AND POWERS OF HERITAGE INSPECTORS

Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary –
- a) enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
 - b) confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
 - c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act.
- 10) A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority.