

**PHASE ONE CULTURAL HERITAGE IMPACT  
ASSESSMENT OF THE PROPOSED ZAMAZELE  
ACCESS ROAD, UMZIMKHULU LOCAL  
MUNICIPALITY.**



**FOR: Green Belt Projects**

**ACTIVE HERITAGE**

**Frans Prins**  
MA (Archaeology)

P.O. Box 947  
Howick  
3290

**activeheritage@gmail.com**  
**Fax: 0867636380**  
**www.activeheritage.webs.com**

**25 February 2021**

---

## Details and experience of independent Heritage Impact Assessment Consultant

Consultant: Frans Prins (Active Heritage)  
Contact person: Frans Prins  
Physical address: 37 Buchanan Street, Howick, 3290  
Postal address: P O Box 947, Howick, 3290  
Telephone: +27 033 3307729  
Mobile: +27 0834739657  
Fax: 0867636380  
Email: Activeheritage@gmail.com

PhD candidate (Anthropology) University of KwaZulu-Natal  
MA (Archaeology) University of Stellenbosch 1991  
Hons (Archaeology) University of Stellenbosch 1989

University of KwaZulu-Natal, Honorary Lecturer (School of Anthropology, Gender and Historical Studies).

Association of Southern African Professional Archaeologists member

Frans received his MA (Archaeology) from the University of Stellenbosch and is presently a PhD candidate on social anthropology at UKZN. His PhD research topic deals with indigenous San perceptions and interactions with the rock art heritage of the Drakensberg.

Frans was employed as a junior research associate at the then University of Transkei, Botany Department in 1988-1990. Although attached to a Botany Department he conducted a palaeoecological study on the Iron Age of northern Transkei - this study formed the basis for his MA thesis in Archaeology. Frans left the University of Transkei to accept a junior lecturing position at the University of Stellenbosch in 1990. He taught mostly undergraduate courses on World Archaeology and research methodology during this period.

From 1991 – 2001 Frans was appointed as the head of the department of Historical Anthropology at the Natal Museum, Pietermaritzburg. His tasks included academic research and publication, display conceptualization, and curating the African ethnology collections of the Museum. He developed various displays at the Natal Museum on topics ranging from Zulu material culture, traditional healing, and indigenous classificatory systems. During this period Frans also developed a close association with the Departments of Fine Art, Psychology, and Cultural and Media Studies at the then University of Natal. He assisted many post-graduate students with projects relating to the cultural heritage of South Africa. He also taught post-graduate courses on qualitative research methodology to honours students at the Psychology Department, University of Natal. During this period he served on the editorial boards of the *South African Journal of Field Archaeology* and *Natalia*.

Frans left the Natal Museum in 2001 when approached by a Swiss funding agency to assist an international NGO (Working Group for Indigenous Minorities) with the conceptualization of a San or Bushman museum near Cape Town. During this period he consulted extensively with various San groupings in South Africa, Namibia and Botswana. During this period he also made major research and conceptual contributions to the Kamberg and Didima Rock Art Centres in the Ukhahlamba Drakensberg World Heritage Site.

Between 2003 and 2007 Frans was employed as the Cultural Resource Specialist for the Maloti Drakensberg Transfrontier Project – a bilateral conservation project funded through the World Bank. This project involved the facilitation with various stakeholders in order to produce a cultural heritage conservation and development strategy for the adjacent parts of Lesotho and South Africa. Frans was the facilitator for numerous heritage surveys and assessments during this project. This vast area included more than 2000 heritage sites. Many of these sites had to be assessed and heritage management plans designed for them. He had a major input in the drafting of the new Cultural Resource Management Plan for the Ukhahlamba Drakensberg World Heritage site in 2007/2008. A highpoint of his career was the inclusion of Drakensberg San indigenous knowledge systems, with San collaboration, into the management plans of various rock art sites in this world heritage site. He also liaised with the tourism specialist with the drafting of a tourism business plan for the area.

During April 2008 Frans accepted employment at the environmental agency called Strategic Environmental Focus (SEF). His main task was to set-up and run the cultural heritage unit of this national company. During this period he also became an accredited heritage impact assessor and he is rated by both Amafa and the South African Heritage Resources Agency (SAHRA). He completed almost 50 heritage impact assessment reports nation-wide during an 18<sup>th</sup> month period.

Frans left SEF and started his own heritage consultancy called “Active Heritage cc” in July 2009. Although mostly active along the eastern seaboard his clients also include international companies such as Royal Dutch Shell through Golder Associates, and UNESCO. He has now completed almost 1000 heritage conservation and management reports for various clients since the inception of “Active Heritage cc”. Amongst these was a heritage study of the controversial fracking gas exploration of the Karoo Basin and various proposed mining developments in South Africa and proposed developments adjacent to various World Heritage sites. Apart from heritage impact assessments (HIA's) Frans also assist the National Heritage Council (NHC) through Haley Sharpe Southern Africa', with heritage site data capturing and analysis for the proposed National Liberation Route World Heritage Site and the national intangible heritage audit. In addition, he is has done background research and conceptualization of the proposed Dinosaur Interpretative Centre at Golden Gate National Park and the proposed Khoi and San Interpretive Centre at Camdeboo, Eastern Cape Province. During 2009 he also

produced the first draft dossier for the nomination of the Sehlabathebe National Park, Lesotho as a UNESCO inscribed World Heritage Site.

Frans was appointed as temporary lecturer in the department of Heritage and Tourism, UKZN in 2011. He is also a research affiliate at the School of Cultural and Media Studies in the same institution. Frans's research interests include African Iron Age, paleoecology, rock art research, San ethnography, traditional healers in South Africa, and heritage conservation. Frans has produced more than forty publications on these topics in both popular and academic publications. He is frequently approached by local and international video and film productions in order to assist with research and conceptualization for programmes on African heritage and culture. He has also acted as presenter and specialist for local and international film productions on the rock art of southern Africa. Frans has a wide experience in the fields of museum and interpretive centre display and made a significant contribution to the conceptual planning of displays at the Natal Museum, Golden Horse Casino, Didima Rock Art Centre and !Khwa tu San Heritage Centre. Frans is also the co-founder and active member of "African Antiqua" a small tour company who conducts archaeological and cultural tours world-wide. He is a Thetha accredited cultural tour guide and he has conducted more than 50 tours to heritage sites since 1992.

#### **Declaration of Consultants independence**

Frans Prins is an independent consultant to Green Belt Projects and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances whatsoever that compromise the objectivity of this specialist performing such work.



**Frans Prins**

## TABLE OF CONTENTS

<b>1</b>	<b>BACKGROUND INFORMATION ON THE PROJECT</b> .....	<b>1</b>
<b>2</b>	<b>SCOPE OF WORK</b> .....	<b>2</b>
<b>3</b>	<b>BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA</b> .....	<b>5</b>
<b>4</b>	<b>BACKGROUND INFORMATION OF THE SURVEY</b> .....	<b>7</b>
4.1	Methodology .....	7
4.2	Restrictions encountered during the survey .....	7
4.2.1	<i>Visibility</i> .....	7
4.2.2	<i>Disturbance</i> .....	7
4.3	Details of equipment used in the survey.....	7
4.4	Locational data .....	8
4.5	Description of the general area surveyed.....	8
<b>5</b>	<b>STATEMENT OF SIGNIFICANCE (HERITAGE VALUE EXCLUDING PALEONTOLOGY)</b> .....	<b>8</b>
5.1	Field Rating.....	9
<b>6</b>	<b>PHASE 1 DESKTOP PALAEOLOGY ASSESSMENT</b> .....	<b>10</b>
<b>7</b>	<b>RECOMMENDATIONS</b> .....	<b>11</b>
<b>8</b>	<b>RISK PREVENTATIVE MEASURES ASSOCIATED WITH CONSTRUCTION</b> ...	<b>11</b>
<b>9</b>	<b>MAPS AND FIGURES</b> .....	<b>12</b>
<b>9</b>	<b>REFERENCES</b> .....	<b>17</b>

## LIST OF TABLES

Table 1.	Background information.....	3
Table 2.	GPS coordinates of watercourses along Zamazele Road.....	4
Table 3.	Field rating and recommended grading of sites (SAHRA 2005) .....	9

**LIST OF ABBREVIATIONS AND ACRONYMS**

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1820 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000)
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

## **EXECUTIVE SUMMARY**

A phase one cultural heritage survey of the proposed Zamazele Access Road, Umzimkhulu Local Municipality, identified no heritage sites on the footprint. Some heritage sites are located in the nearby town of Umzimkhulu but these are not threatened by the proposed development and no mitigation is necessary. The area is also not part of any known cultural landscape. There is no general heritage or archaeological reason why development may not proceed as planned. The phase one paleo desktop study indicates that the footprint is situated in an area with a high fossil sensitivity. A desktop survey by an accredited palaeontologist, followed by a ground survey, will be required before development may proceed. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal & Amafa Research Institute Act (Act no 5 of 2018) which, requires that operations that expose archaeological or historical remains and fossils should cease immediately, pending evaluation by the provincial heritage agency.

## **1 BACKGROUND INFORMATION ON THE PROJECT**

Frans Prins (Active Heritage) was appointed by Green Belt Projects to conduct heritage impact assessment (HIA) for the proposed Zamazele Access Road near Umzimkhulu, KZN.

According to the National Heritage Resources Act, 1999 (NHRA) (Act No. 25 of 1999), the heritage resources of South Africa 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).

## **2 SCOPE OF WORK**

This study aims to identify and assess the significance of any heritage and archaeological resources occurring on or adjacent to the proposed access roads. Based on the significance, the impact of the development on the heritage resources will be determined and appropriate actions to reduce the impact on the heritage resources put forward. In terms of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

- a. its importance in the community, or pattern of South Africa's history;
- b. its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- c. its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- d. its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- e. its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- f. its importance in demonstrating a high degree of creative or technical achievement at a particular period;



- g. its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- h. its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa; and
- i. sites of significance relating to the history of slavery in South Africa.

**Table 1. Background information**

Consultant:	Frans Prins (Active Heritage)
Type of development:	Upgrading of proposed gravel access road
Rezoning or subdivision:	Rezoning
Terms of reference	To carry out a Phase One Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu-Natal Amafa & Research Institute Act, 2018 (Act No 5 of 2018).

**2.1. Details of the area surveyed:**

The project is situated in Ward 4 of the Umzimkhulu Local Municipality, Harry Gwala District Municipality. The site is located approximately 41km north east of Kokstad, 40km north west of Umzimkhulu and 21 km south west of Riverside. The site is located at co-ordinates 30°11'26.55"S 29°31'36.15"E. (Figs 1 & 2) .The proposed road alignment traverses 2 perennial and 3 non-perennial watercourses of the Nonginga River (Fig 3 & Table 2). The proposed project is located on the Remaining extent of Farm 515 Insikeni, SG 21 Digit Code: N0ES00000000515000.

The proposed Zamazela gravel access road and watercourse crossings, aims to allow local residents to have improved, formalised vehicular access to their homes, schools, shops and the extended road network. The proposed development is an upgrade of the

main access road and construction of new arterial roads within Zamazele. To project will create a formal infrastructure link from Zamazele to Masimini Villages. The proposed road upgrade and construction will be constructed and complete with formal stormwater infrastructure, cut-off drains and watercourse crossing structures. The proposed road width is expected to be a 4m wide cambered gravel access road, with 1m servitudes on either side, having a total width of 6m. Minor watercourse crossings structures will each comprise 600mm Ø concrete pipes. Major crossings will comprise 900mm Ø pipes. The proposed upgrade is designed to meet the minimum requirements of the design speed. Where possible the road will be constructed on the existing road servitude. The design speed for the road is 40 km/hr. Pipe crossings will be seated on a re-inforced concrete base with reinforced concrete wing wall and apron slabs at ingress and egress points. Wing walls and apron slabs will be reinforced concrete also. The gravel road will be reshaped on either side of the proposed watercourse crossings in order for road levels to tie into the crossing structure. Headwalls will be rehabilitated were possible and ingress and egress points made good within watercourse areas. The dimensions and co-ordinates of the proposed watercourse crossing structures are presented in Table 1

**Table 2. Dimensions and co-ordinates of the proposed watercourse crossing structures.**

Crossing	Dimension	Location
WC1	2x600mm pipes, 7.9m long.	30°11'17.06"S 29°31'27.36"E
WC2	2x900mm pipes, 8.1m long.	30°11'9.56"S 29°31'28.12"E
WC3	2x600mm pipes, 9.6m long.	30°10'56.67"S 29°31'23.67"E
WC4	2x900mm pipes, 8.3m long.	30°10'35.62"S 29°31'3.97"E
WC5	4x600mm pipes, 12m long.	30°10'26.52"S 29°30'58.72"E

The proposed road upgrade provides a formal gravel access road with complete watercourse drainage infrastructure. The proposed road traverses an unnamed local road off the L2198, which stems from the P602. The road start point is at 30°11'26.55"S 29°31'36.15"E. The proposed development is unlikely to impact any provincial or national road, although slow turning construction traffic and the generation of dust may have an impact during construction. There may also be a slight increase in the number of vehicles utilising connecting roads to the P602.

### 3 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

The greater Umzimkhulu area has never been intensively surveyed for heritage sites. However, some sites have been recorded by cultural resource consultants who have worked in the area during the last two decades whilst archaeologists from the KwaZulu-Natal Museum have made sporadic visits to the area. The area was surveyed in 2008 by Anderson (2008) and a few years later by Beater & Prins (2014) and the nearby Ibis Water Reticulation Project in 2019 (Prins 2019) but no archaeological sites were recorded. The available evidence, as captured in the KwaZulu-Natal Museum heritage site inventories, indicates that the greater Umzimkhulu area contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. These include five Early Stone Age sites, two Middle Stone Age sites, four Later Stone Age sites, two rock painting sites, four Early Iron Age sites, three Later Iron Age sites, and one historical site. Various buildings and farmsteads belonging to the Victorian and Edwardian periods occur in the area. These would also be protected by heritage legislation (Derwent 2006).

Stone Age sites of all the main periods and cultural traditions occur within the greater study area. Most of these occur in open air contexts as exposed by donga and sheet erosion. The occurrence of Early Stone Age tools in the near vicinity of permanent water resources is typical of this tradition. These tools were most probably made by early hominins such as *Homo erectus* or *Homo ergaster*. Based on typological criteria they most probably date back to between 300 000 and 1.7 million years ago. The presence of the first anatomically modern people (i.e. *Homo sapiens sapiens*) in the area is indicated by the presence of a few Middle Stone Age blades and flakes. These most probably date back to between 40 000 and 200 000 years ago. The later Stone Age flakes and one rock painting site identified in the area are associated with the San (Bushmen) and their direct ancestors. These most probably date back to between 200 and 20 000 years ago.

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers crossed the Limpopo River and arrived in South Africa (Mitchell 2002). By 1500 years ago these early Bantu-speaking farmers also arrived in the greater Umzimkhulu area. Due to the fact that these first farmers introduced metal technology to southern Africa they are designated as the Early Iron Age in archaeological literature. Their distinct

ceramic pottery is classified to styles known as “Msuluzi” (AD 500-700), Ndongondwane (AD 700-800) and Ntshokane (AD 800-900). Most of the Early Iron Age sites in the greater Ixopo area belong to these traditions (Maggs 1989:31; Huffman 2007:325-462). These sites characteristically occur on alluvial or colluvial soil adjacent to large rivers, such as the Mzimkhulu River, below the 1000m contour. The Early Iron Age farmers originally came from western Africa and brought with them an elaborate initiation complex and a value system centred on the central significance of cattle.

Later Iron Age sites also occur in this area. These were Bantu-speaking agropastoralists who arrived in southern Africa after 1000 year ago via East Africa. Later Iron Age communities in KwaZulu-Natal and adjacent parts of the Eastern Cape Province were the direct ancestors of the Zulu and Xhosa-speaking people (Huffman 2007). Many African groups moved through the study area due to the period of tribal turmoil as caused by the expansionistic policies of King Shaka Zulu in the 1820’s. During the colonial era (1840s onwards) many African groups were settled in this area by the native administrator of the Colony of Natal, Lord Shepstone. It is known from oral history that the Umzimkhulu area was occupied by the Nhlanguwini, amaWushe, amaHlubi, amaBhaca, amaZizi, amaNqolo, amaCunu and various other Zulu-speaking and Xhosa-speaking refugees in the 19<sup>th</sup> century (Bryant 1965; Jackson 1975). There are also some Mpondo and Sotho groupings in the area. Interestingly, descendants of the San still live in the area and have adopted the Zulu clan name of Ndobe. The descendants of all these ethnic groupings still live in the area. Interestingly, after the Anglo-Zulu war of 1879 and the Bambatha Rebellion of 1911 some of the African people in the study area adopted a Zulu ethnic identity.

The town of Umzimkhulu owes its origins to the Strachan Family who set up a trading store on the banks of the Umzimkhulu River, near the original ferry crossing in the 1880s. This store (and specifically the trading company) formed an integral part of the regional economy. Strachan & Co. even had its own coins minted that were accepted by the banks in Kokstad. Anderson (2008) recorded some historical buildings in the actual town of Umzimkhulu. However, none of these occur closer than 1km to the actual footprint.

## **4 BACKGROUND INFORMATION OF THE SURVEY**

### **4.1 Methodology**

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. In addition, the available archaeological literature covering the greater Umzimkhulu area was also consulted. The SAHRIS website was consulted to ascertain the location of heritage sites in or near the footprint.

A ground survey, following standard and accepted archaeological procedures, was conducted on 10 January 2021. The footprint was visited on foot. The consultant was also guided by community perspectives and interviewed local residents of the area whilst conducting the ground survey. None of them had knowledge of any heritage sites or features on the actual footprint.

### **4.2 Restrictions encountered during the survey**

#### **4.2.1 Visibility**

Visibility was good (Figs 5 - 8)

#### **4.2.2 Disturbance.**

The proposed development site has been disturbed by overgrazing and small-scale subsistence farming activities in the past. The rural homesteads in the area may also mask heritage sites or features. However, no disturbance of any potential heritage features was noted.

### **4.3 Details of equipment used in the survey**

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

#### **4.4 Locational data**

Province: KwaZulu-Natal

Town: Umzimkhulu

Municipality: Umzimkhulu Local Municipality

#### **4.5 Description of the general area surveyed**

The desktop and ground survey did not identify any heritage sites on the footprint. Archaeological sites do occur in the greater Umzimkhulu area but none of these are situated closer than 5km to the footprint (Fig 4). None of the graves observed occur less than 500m from the proposed road upgrade. They are therefore not threatened by the proposed development and there is no need for any mitigation. It is also important to note that the footprint does not form part of any known cultural landscape.

### **5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE EXCLUDING PALEONTOLOGY)**

As there are no heritage sites on the proposed development site the area is not significant in terms of heritage values. No archaeological sites were observed during the course of the survey. Several historical buildings do occur in the town of Umzimkhulu (Anderson 2008) but these are situated more than 10km from the footprint.

## 5.1 Field Rating

The field rating criteria as formulated by SAHRA (Table 3) does not apply to the footprint as no heritage sites or features have been identified (Table 4).

**Table 3. Field rating and recommended grading of sites (SAHRA 2005)**

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

**Table 4. Evaluation and statement of significance (excluding paleontology).**

<b>Significance criteria in terms of Section 3(3) of the NHRA</b>		
	<b>Significance</b>	<b>Rating</b>
1.	<b>Historic and political significance</b> - The importance of the cultural heritage in the community or pattern of South Africa's history.	None.
2.	<b>Scientific significance</b> – Possession of uncommon, rare or endangered aspects of South Africa's cultural heritage.	None
3.	<b>Research/scientific significance</b> – Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.	None
4.	<b>Scientific significance</b> – Importance in demonstrating the principal characteristics of a particular class of South Africa's cultural places/objects.	None
5.	<b>Aesthetic significance</b> – Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.	None.
6.	<b>Scientific significance</b> – Importance in demonstrating a high degree of creative or technical achievement at a particular period.	None.
7.	<b>Social significance</b> – Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	None.
8.	<b>Historic significance</b> – Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.	None.
9.	The significance of the site relating to the history of slavery in South Africa.	None.

## 6 PHASE 1 DESKTOP PALAEOLOGY ASSESSMENT

The SAHRIS fossil sensitivity map indicates that the proposed Zamazele Access Road falls in an area with a moderate to very high fossil sensitivity (Fig 5). It is possible that the shale formations in the project area carry some fossils. A ground survey by an Amafa accredited palaeontologist, followed by a protocol of finds, will be required before any development may proceed.



## **7 RECOMMENDATIONS**

The development of the Zamazele Access Road may proceed in terms of general heritage values as no heritage and archaeological sites are in any danger of being destroyed or altered. There is no need for mitigation. There are no limitations and assumptions.

However, a ground survey by an accredited palaeontologist, followed by a protocol of finds, will be required before any development may proceed.

It should also be pointed out that the KwaZulu-Natal Heritage Act requires that operations exposing archaeological and historical residues as well as fossils should cease immediately pending an evaluation by the heritage authorities.

## **8 RISK PREVENTATIVE MEASURES ASSOCIATED WITH CONSTRUCTION**

Not applicable.

9 MAPS AND FIGURES

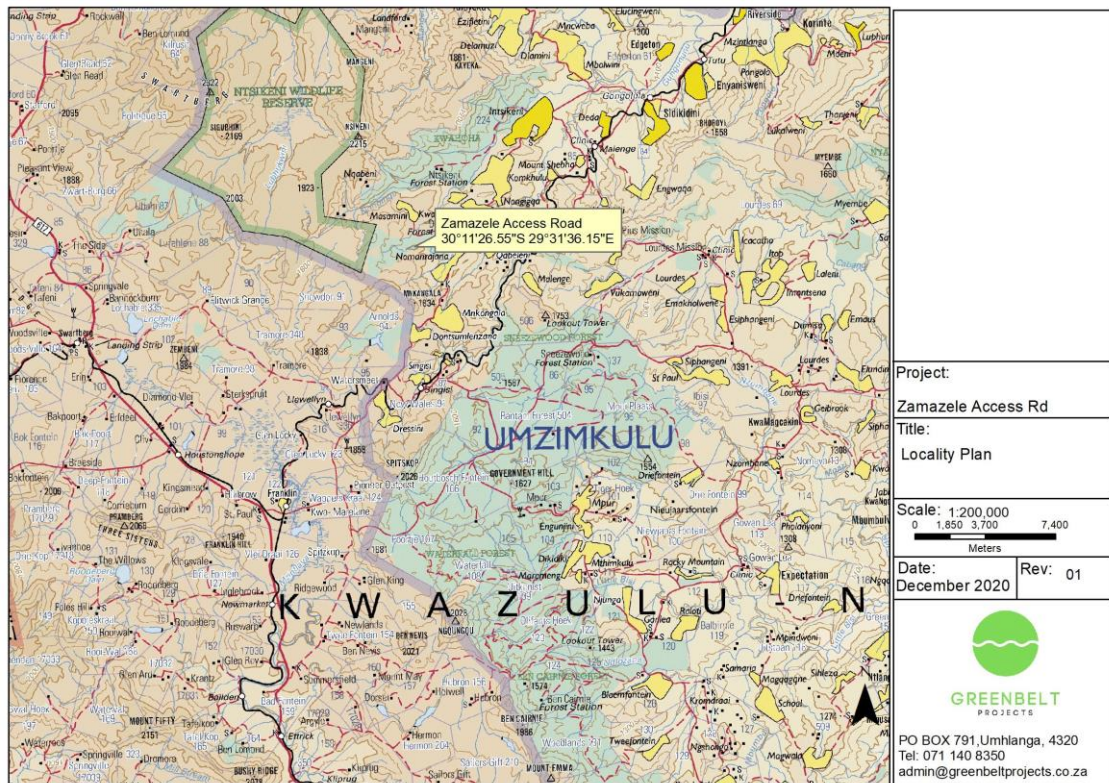


Figure 1. Map showing the locality of Zamazele Access Road near Umzimkhulu (Source: Greenbelt Projects).

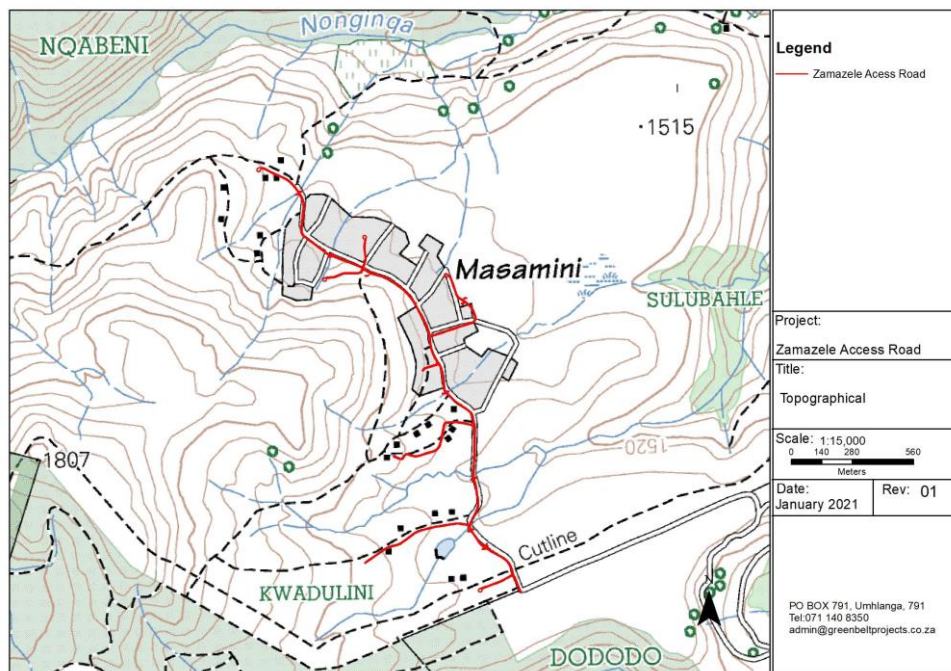
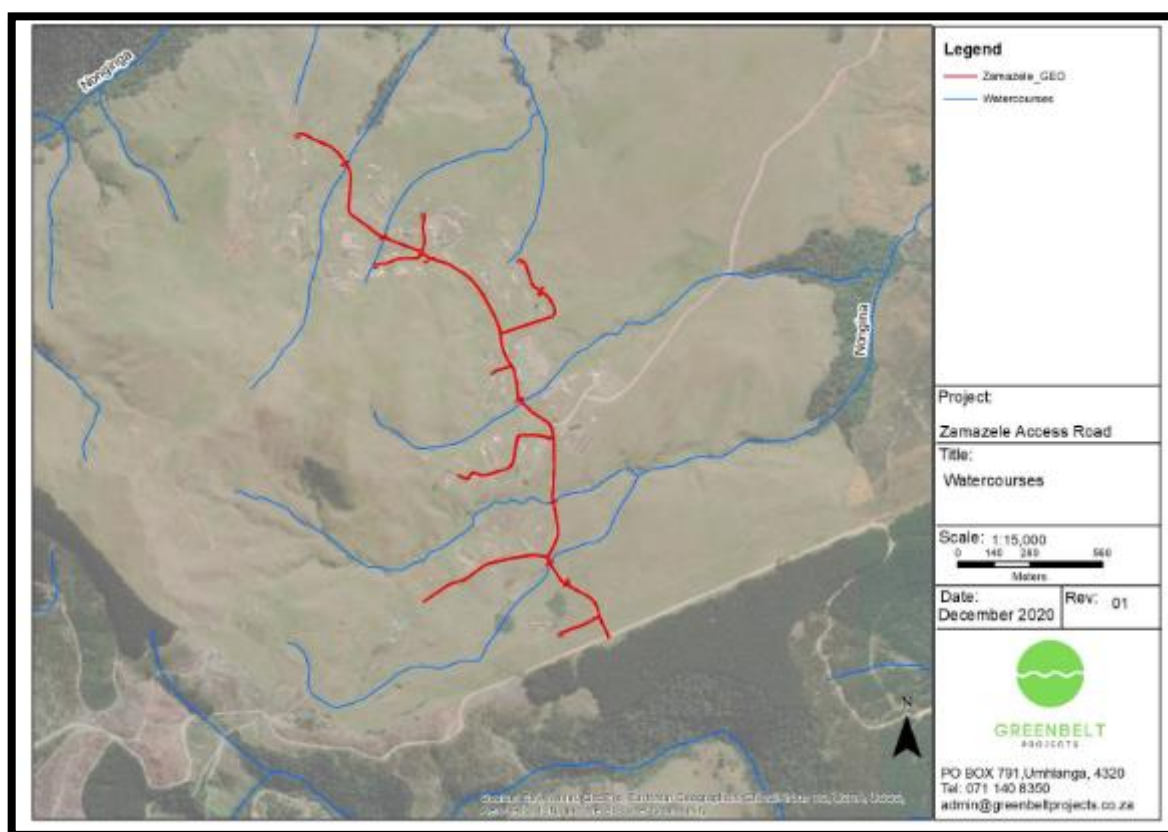
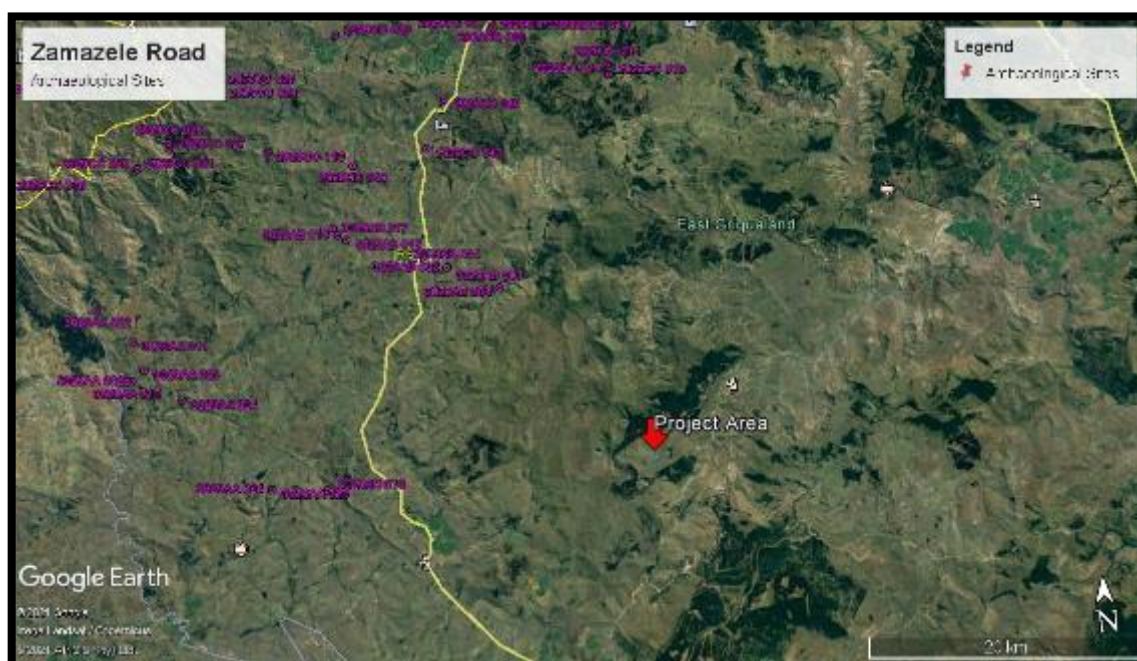


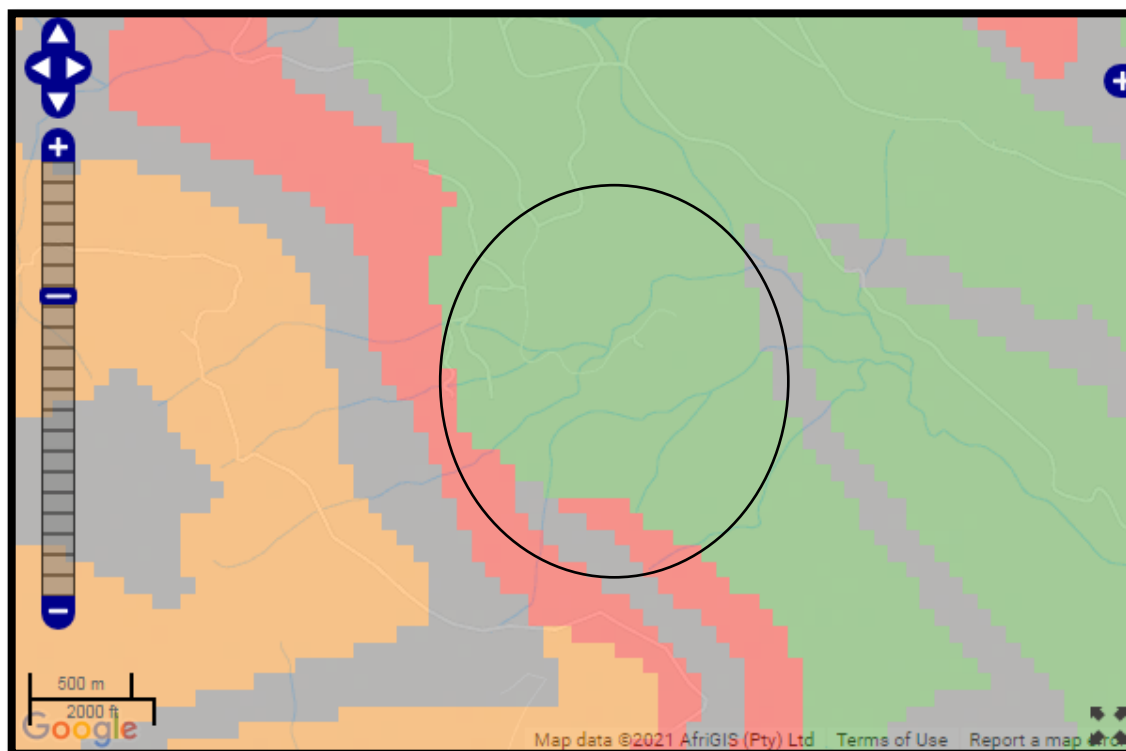
Figure 2. Topographical Map showing the location of the Zamazele Access Road at Msamini Village (Source: Green Belt Projects)



**Figure 3. Google Earth Imagery showing the location of Zamazele Access Road and the water crossings (Source: Greenbelt Projects)**



**Figure 4. Google Earth Imagery showing the location of the known archaeological sites relative to the project area. None occurs closer than 5km to the footprint,**



Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

**Figure 5. Fossil Sensitivity Map of the Project Area as indicated by the black circle. The green background indicates that the area has a moderate to very high (red background) paleontological sensitivity. A ground survey and protocol of finds, by a qualified palaeontologist, will be required.**



**Figure 6. Road leading to Masamini Village bordering the proposed Zamazele Access Road.**



**Figure 7. No heritage sites or features are situated within 50m from the road.**



***Figure 8. All the buildings in the village are modern (younger than 60 years old) with no heritage value.***



***Figure 9. No graves are located next to the roads and the Zulu homesteads are all younger than 60 years old.***

## 9 REFERENCES

Anderson, G. 2008. *Heritage Survey of Umzimkhulu Town*. Umlando. Unpublished report submitted to SEF.

Bryant, A. T. 1965. *Olden times in Zululand and Natal*. Cape Town: C. Struik.

Beater, J & Prins F E. 2014. Cultural Heritage Survey of the proposed Ibisi Cemetery, Umzimkhulu Local Municipality. Active Heritage cc & Jean Beater Consulting. Unpublished report submitted to Enviropro and SAHRIS.

Derwent, S. 2006. *KwaZulu-Natal Heritage Sites: a Guide to some Great Places*. Claremont: David Philip.

Huffman, T. N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press. Pietermaritzburg.

Jackson, A. O. 1975. The Ethnic Composition of the Ciskei and Transkei. *Ethnological Publications*. No 53. Government Printer: Pretoria

Maggs, T. The Iron Age farming communities. In Duminy, A. and Guest, B. 1989. *Natal and Zululand: from Earliest Times to 1910. A New History*. Pg. 28-46. University of Natal Press. Pietermaritzburg.

Mitchell, P . 2002. *The Archaeology of Southern Africa*. Cambridge University Press: Cambridge.

SAHRA, 2005. *Minimum Standards For The Archaeological And The Palaeontological Components Of Impact Assessment Reports, Draft version 1.4*.

