

**MASHUNKA AND NGUBO COMMUNITY ACCESS  
ROAD AND BRIDGE, TUGELA FERRY, KWAZULU-  
NATAL  
FOR AFZELIA ENVIRONMENTAL CONSULTANTS**

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## INTRODUCTION


Afzelia Environmental Consultants has been appointed by Royal Haskoning DHV on behalf of the KwaZulu-Natal Department of Transport to undertake an Environmental Impact Assessment in the form of a Basic Assessment for the proposed bridge crossing with associated road across the Tugela River, to link the Mashunka and Ngubo communities.

The proposed development entails the construction of a bridge over the Tugela River and associated road infrastructure linking the Ngubo and Mashunka local communities, located on the northern and southern side of the river respectively. The development area is located in the Msinga Local Municipality, KwaZulu-Natal Province. Two site / route alternatives have been considered

The preferred proposal is to construct a bridge along the Tugela River and associated link road between the P280 and D1272. -2. The total length of the proposed link road required (i.e. linking the P280 to the D1272) for the preferred alignment is - 2 - 3.3 km. Approximately 1.9 km of the proposed link road consists of an existing dual lane gravel road on the northern bank of the Tugela River that would require minor upgrading. Both the proposed roads and their bridges will include associated storm water infrastructure.


Approximately 1.4 km of new road construction would be required to run through existing farmland on the southern bank of the river. The intention is for the link road to be constructed to dual lane gravel Type 4 standard with a road width of 7 m incorporating 2 lanes of 3.5 m wide. This is one lane in either direction. The road reserve will not exceed 30 m. This link road is to be paved at a later stage but will be dependent on the progress of the paving of P280 and D1272.

**Site / Route alternative 2:** This alternative entails the construction of a 6.2 km link road, starting at approximately 37.1 km on P280 Road located south of the Tugela River, ending at approximately 5.85 km on D1284 Road north of the Tugela River.



Of the 6.6 km length of the road, a 4.5 km portion is an existing 5 m wide Type 7 gravel road located on the northern side of Tugela River. Approximately 450 m of the 4.5 km section would require minor upgrading. The remaining 1.7 km will be a new road (0.9 km on the northern side and 0.8 km on southern side of the Tugela River). The link road to be constructed will be a gravel Type 7 standard road with a road width of 5 m to tie into the existing road.

At the Tugela River crossing point, a new bridge of the following specifications will be constructed: approximately 175 m in length (i.e. 7 spans of 25 m each), comprising of post-tensioned precast beams, with a cast in-situ deck slab and reinforced by concrete wall type piers. The structure would comprise of 2 x 3.5 m wide lanes and a 1.5 m wide pedestrian walkway. According to the preliminary design report issued by Royal Haskoning DHV “a skew structure will be required in order to accommodate road geometric requirements”. Measured in a straight line the proposed bridge would be approximately 9.4 km west of the existing Tugela Ferry bridge on main Road R33” (ESO Tugela River Bridge and Link Road document, 2014)



Figures 1 – 3 show the location of the two Alternatives.



FIG. 1 GENERAL LOCATION OF THE STUDY AREA

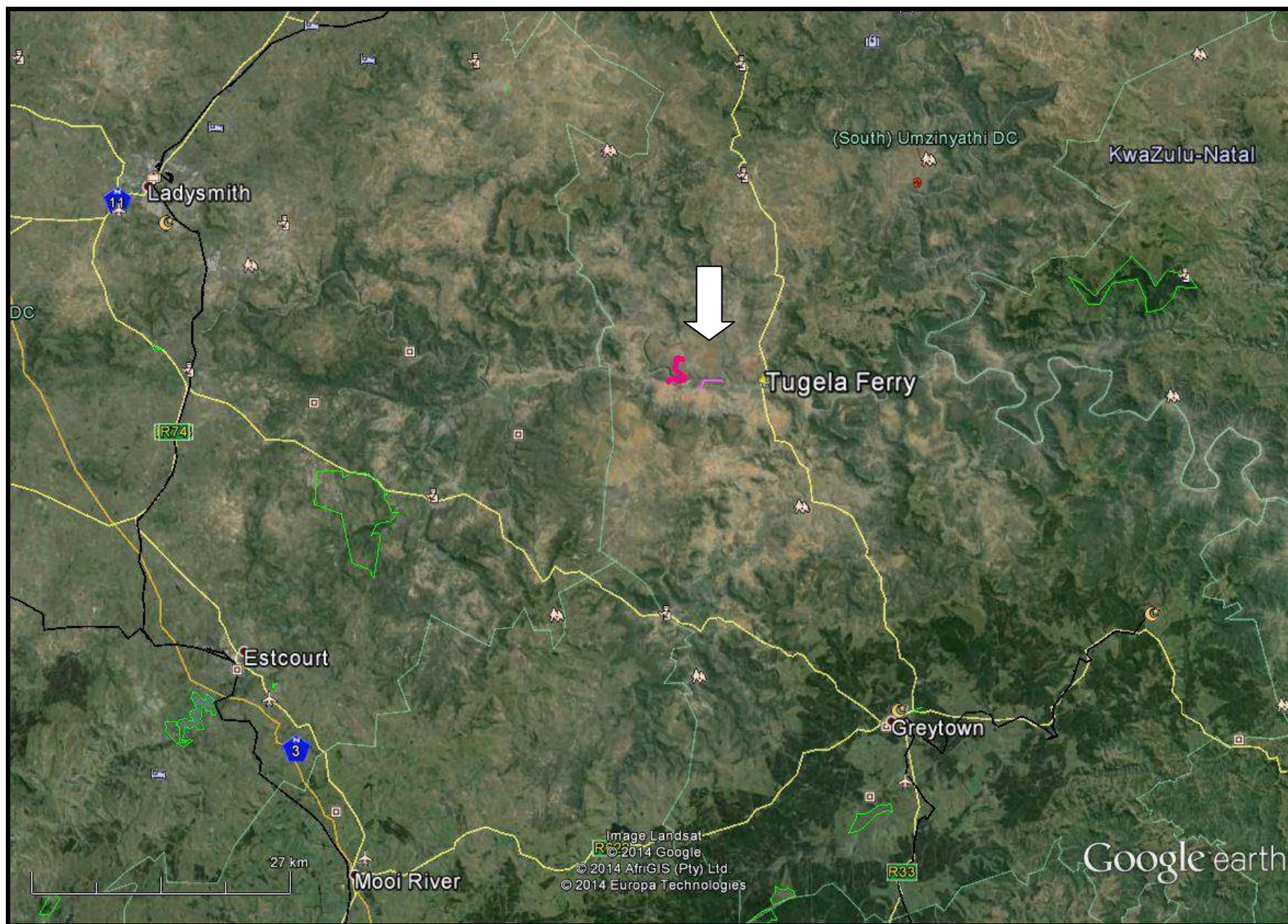




FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA

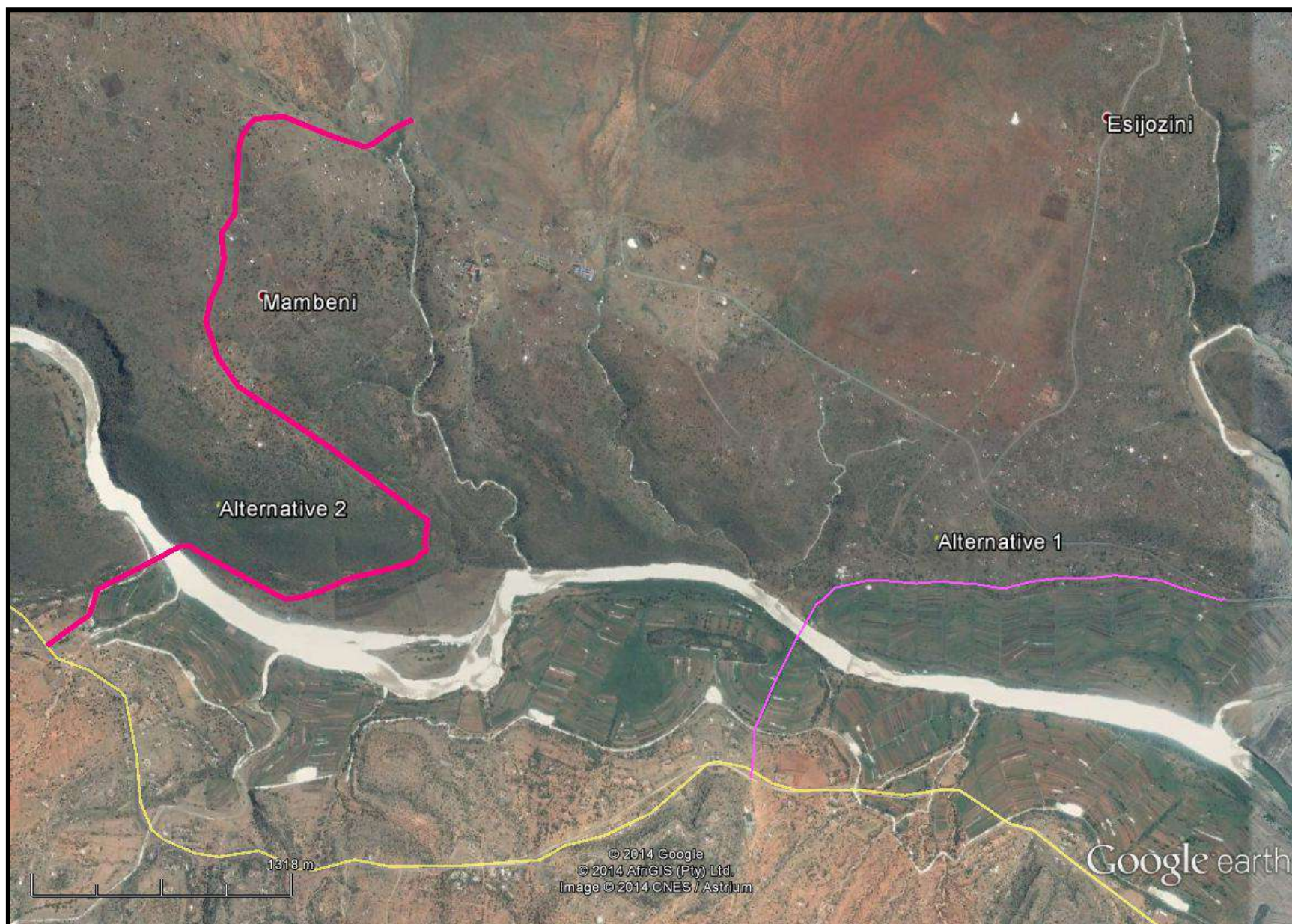
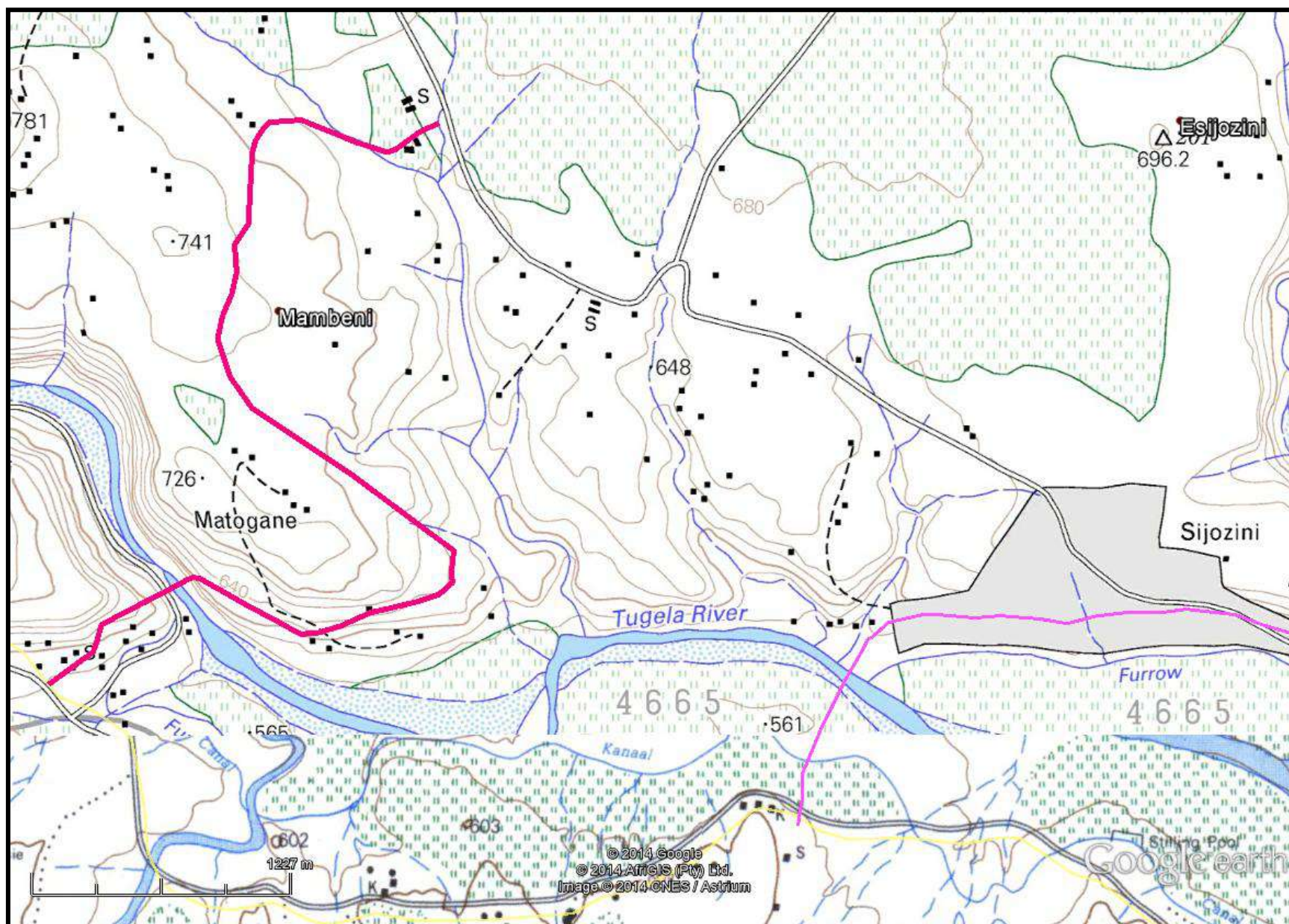




FIG. 3: TOPOGRAPHICAL MAP OF THE STUDY AREA





## KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008

### “General protection: Structures.—

- No structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior written approval of the Council having been obtained on written application to the Council.
- Where the Council does not grant approval, the Council must consider special protection in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- The Council may, by notice in the *Gazette*, exempt—
- A defined geographical area; or
- defined categories of sites within a defined geographical area, from the provisions of subsection where the Council is satisfied that heritage resources falling in the defined geographical area or category have been identified and are adequately protected in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.

### General protection: Graves of victims of conflict.—No person may damage, alter, exhume, or remove from its original position—

- the grave of a victim of conflict;
  - a cemetery made up of such graves; or
  - any part of a cemetery containing such graves, without the prior written approval of the Council having been obtained on written application to the Council.
- ### General protection: Traditional burial places.—
- No grave—
  - not otherwise protected by this Act; and
  - not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council.

The Council may only issue written approval once the Council is satisfied that—

- the applicant has made a concerted effort to consult with communities and individuals who by tradition may have an interest in the grave; and
- the applicant and the relevant communities or individuals have reached agreement regarding the grave.

General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites.—

- No person may destroy, damage, excavate, alter, write or draw upon, or otherwise disturb any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- Upon discovery of archaeological or palaeontological material or a meteorite by any person, all activity or operations in the general vicinity of such material or meteorite must cease forthwith and a person who made the discovery must submit a written report to the Council without delay.
- The Council may, after consultation with an owner or controlling authority, by way of written notice served on the owner or controlling authority, prohibit any activity considered by the Council to be inappropriate within 50 metres of a rock art site.
- No person may exhume, remove from its original position or otherwise disturb, damage, destroy, own or collect any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- No person may bring any equipment which assists in the detection of metals and archaeological and palaeontological objects and material, or excavation equipment onto any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, or meteorite impact site, or

- use similar detection or excavation equipment for the recovery of meteorites, without the prior written approval of the Council having been obtained on written application to the Council.
- The ownership of any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site, on discovery, vest in the Provincial Government and the Council is regarded as the custodian on behalf of the Provincial Government.” (KZN Heritage Act of 2008)

## METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. These databases contain archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (<http://www.vuvuzela.com/googleearth/monuments.html>) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1<sup>st</sup> and 2<sup>nd</sup> edition 1:50 000 topographical and 1937-1950 aerial photographs where available, to assist in general location and dating of buildings and/or graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan.



All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

### **Defining significance**

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

#### **1. State of preservation of:**

- 1.1. Organic remains:
  - 1.1.1. Faunal
  - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
  - 1.5.1. Ash Features
  - 1.5.2. Graves
  - 1.5.3. Middens
  - 1.5.4. Cattle byres
  - 1.5.5. Bedding and ash complexes

**2. Spatial arrangements:**

- 2.1. Internal housing arrangements
- 2.2. Intra-site settlement patterns
- 2.3. Inter-site settlement patterns

**3. Features of the site:**

- 3.1. Are there any unusual, unique or rare artefacts or images at the site?
- 3.2. Is it a type site?
- 3.3. Does the site have a very good example of a specific time period, feature, or artefact?

**4. Research:**

- 4.1. Providing information on current research projects
- 4.2. Salvaging information for potential future research projects

**5. Inter- and intra-site variability**

- 5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?
- 5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

**6. Archaeological Experience:**

- 6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

**7. Educational:**

- 7.1. Does the site have the potential to be used as an educational instrument?
- 7.2. Does the site have the potential to become a tourist attraction?
- 7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

**8. Other Heritage Significance:**

- 8.1. Palaeontological sites
- 8.2. Historical buildings

- 8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites
- 8.4. Graves and/or community cemeteries
- 8.5. Living Heritage Sites
- 8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

## **RESULTS**

### **DESKTOP STUDY**

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous heritage surveys. The archaeological database indicates that there are archaeological sites in the general area (fig. 4). These sites include all types of Stone Age and Rock Art sites. The Stone Age sites appear to be small scatters and/or isolated occurrences of stone tools located in the flood plain, along the slopes of hills, or at the base of the hill. These would be of low significance and probably in a secondary context. The rock art sites are located in shelters in the mountainous areas. No sites have previously been recorded within the study area.

No national monuments, battlefields, or historical cemeteries are known to occur in the study area.



The 1940 aerial photographs indicate that there are four heritage sites within 50m of the existing roads (fig.'s 5 – 6). Three of these have been built over or ploughed, with only 'la2' not affected. Two are buildings and two are settlements

The 1965 topographical map indicates that there is only one heritage site within 50m of the road (fig. 7). This site, 'ta1', is a human settlement.

The more recent aerial photography from Google Earth indicates that there are six abandoned human settlements near the existing road.

The locations of these sites are given in Table 1. A general sensitivity buffer of 50m should be placed around each of these sites.

**TABLE 1: LOCATION OF DESKTOP HERITAGE SITES**

| Name       | Latitude      | Longitude    | Map Date | Description |
|------------|---------------|--------------|----------|-------------|
| <b>g1</b>  | -28.732536934 | 30.349022771 | 2012     | Settlement  |
| <b>g2</b>  | -28.732935882 | 30.349433550 | 2012     | Settlement  |
| <b>g3</b>  | -28.736054141 | 30.352361876 | 2012     | Settlement  |
| <b>g4</b>  | -28.737038501 | 30.352167482 | 2012     | Settlement  |
| <b>g5</b>  | -28.737634784 | 30.353834614 | 2012     | Settlement  |
| <b>g6</b>  | -28.744401632 | 30.349144683 | 2012     | Settlement  |
| <b>la1</b> | -28.745070331 | 30.390143558 | 1940     | Settlement  |
| <b>la2</b> | -28.752241402 | 30.377848075 | 1940     | Settlement  |
| <b>la3</b> | -28.745765561 | 30.341834056 | 1940     | Buildings   |
| <b>la4</b> | -28.746718271 | 30.342396494 | 1940     | Buildings   |
| <b>ta1</b> | -28.723779284 | 30.351465461 | 1965     | Settlement  |

FIG. 4: LOCATION OF KNOWN HERITAGE SITES NEAR THE STUDY AREA





FIG. 5: STUDY AREA OF ALTERNATIVE 1 IN 1937



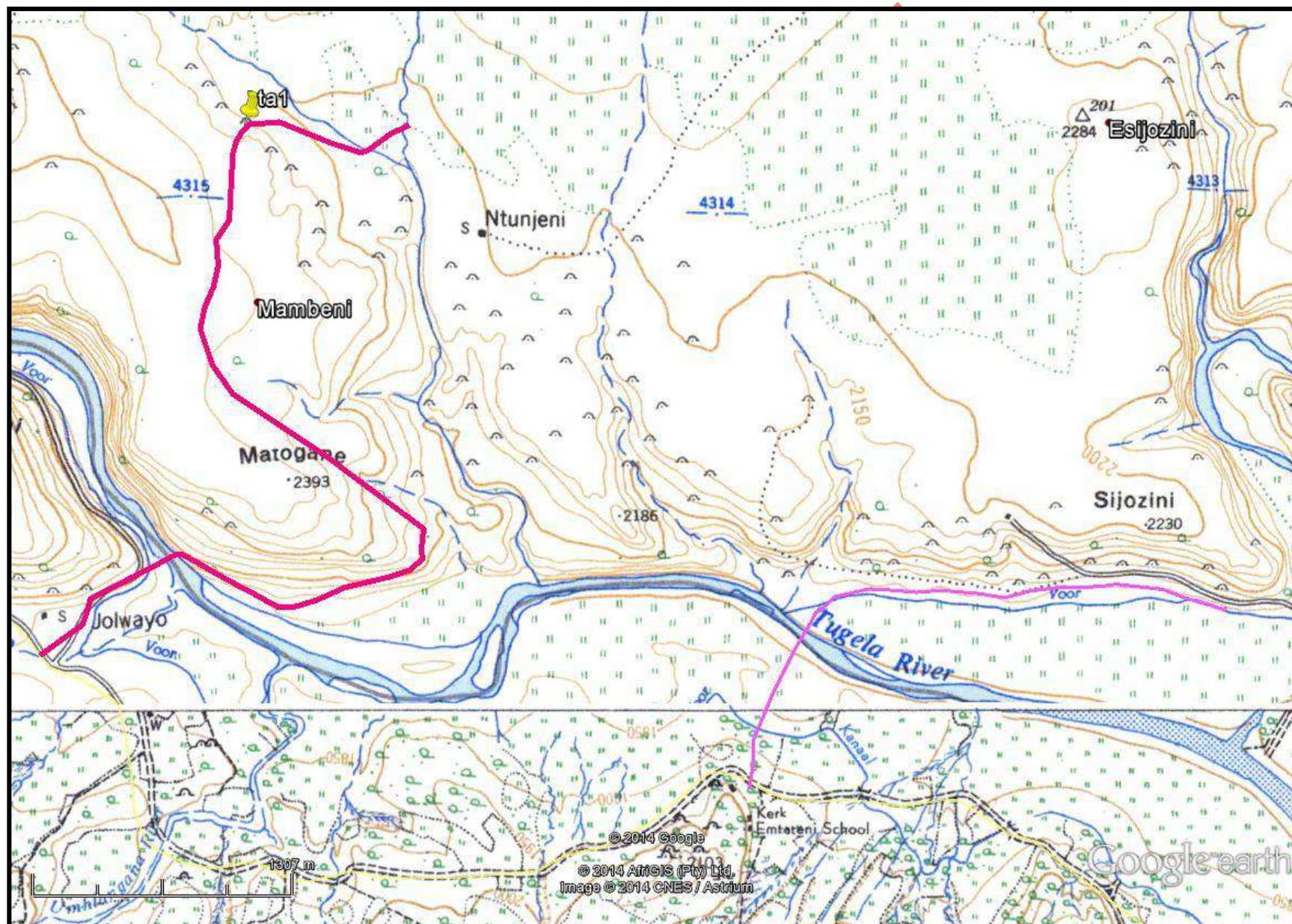


FIG. 6. STUDY AREA OF ALTERNATIVE 1 IN 1937





FIG. 7: STUDY AREA OF ALTERNATIVES 1 & 2 IN 1965



## FIELD SURVEY

The field survey was undertaken on 4 September 2014. Visibility was very good, as the grass had recently been burnt. As noted in the desktop study, Stone Age artefacts do occur in both (studies) areas. These tend to be isolated artefacts in a secondary context. These artefacts do not constitute a site *per se*, and were thus not recorded.

The locations of recorded heritage sites are given in Table 2.

**TABLE 2: LOCATIONS OF RECORDED HERITAGE SITES**

| Name   | Latitude      | Longitude    | Description |
|--------|---------------|--------------|-------------|
| cairn  | -28.725804007 | 30.350668961 |             |
| GR?    | -28.744573016 | 30.350005031 |             |
| TERR   | -28.743949739 | 30.348249269 | Terrace     |
| TF01   | -28.744535863 | 30.395718758 |             |
| TF01b  | -28.744562793 | 30.395241741 |             |
| TF02   | -28.744613894 | 30.394302293 |             |
| TF03a  | -28.744623383 | 30.392833560 |             |
| TF03B  | -28.744759939 | 30.391793506 |             |
| TF04   | -28.744838974 | 30.389497038 |             |
| TF04B  | -28.744778959 | 30.389203001 |             |
| TF05   | -28.744687010 | 30.387349008 |             |
| TF05B  | -28.744678963 | 30.387062011 |             |
| TF06   | -28.744691376 | 30.386041337 |             |
| TF07   | -28.744671184 | 30.385407538 |             |
| TF08   | -28.744895970 | 30.381728020 |             |
| TF08B  | -28.745054975 | 30.380796036 |             |
| TF09   | -28.744304615 | 30.396129969 |             |
| TF010  | -28.744378861 | 30.397052310 |             |
| TF011  | -28.744448914 | 30.397907275 |             |
| TF012A | -28.744796980 | 30.399158020 |             |
| TF012B | -28.744992733 | 30.399737490 |             |
| TF013  | -28.745057282 | 30.400505279 |             |
| TF014  | -28.745231856 | 30.401275986 |             |
| TF015  | -28.724145216 | 30.355342728 |             |
| TF016  | -28.723762660 | 30.352875772 |             |
| TF017  | -28.724383577 | 30.350605463 |             |
| TF018  | -28.726875122 | 30.350657867 |             |
| TF019  | -28.726917    | 30.350833    |             |
| TF020  | -28.744733009 | 30.349897416 |             |
| TF021  | -28.737668622 | 30.353826090 |             |



## TF01

The site consists of a cemetery on the southern side of the road. The graves occur from 5m – 15m from the road. The cemetery is ~50m long. All graves are stone cairns and in a north-south orientation (fig. 8). Some of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 8: GRAVES AT TF01**



## TF02

TF02 occurs ~25m from the southern side of the road. The site consists of five graves. All graves are stone cairns and in a north-south orientation (fig. 9). The graves will not be affected by the road upgrade, but would require demarcation.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 9: GRAVES AT TF02**



### TF03

TF03 is a large cemetery ~100m long (fig. 10). It is located to the south of the road and occurs between 5m and 20m from the road. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 10: GRAVES AT TF03**





#### **TF04**

TF04 is a large cemetery ~35m long (fig. 11). It is located to the north of the road and occurs between 1m and 20m from the road. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 11: GRAVES AT TF04**



## TF05

TF05 is a large cemetery ~30m long (fig. 12). It is located to the north of the road and occurs between 1m and 20m from the road. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 12: GRAVES AT TF05**



## TF06

TF06 is a smaller cemetery located to the north of the road (fig. 13). The cemetery occurs 20m from the road. All graves are stone cairns and in a north-south orientation. The graves will not be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**FIG.13: GRAVES AT TF06**





### TF07

TF07 occurs ~5m from the northern side of the road. The site consists of three graves. All graves are stone cairns and in a north-south orientation (fig. 14). The graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 14: GRAVES AT TF07**



## TF08

TF08 is a large cemetery ~100m long (fig. 15). It is located to the north and west of the road and occurs between 1m and 100m from the road. All graves are stone cairns and in a north-south orientation. The road makes a turn to the south at the eastern end of the cemetery. Some of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 15: GRAVES AT TF08**





## TF09

TF09 occurs ~20m north of the road. The site consists of two graves. All graves are stone cairns and in a north-south orientation (fig. 16). The graves will not be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 16: GRAVES AT TF09**





## TF010

TF010 occurs ~5m north of the road. The site consists of three graves. All graves are stone cairns and in a north-south orientation (fig. 17). The graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 17: GRAVES AT TF010**



### TF011

TF011 occurs ~10m north of the road. The site consists of two graves. All graves are stone cairns and in a north-south orientation (fig. 18). The graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 18: GRAVES AT TF011**





## TF012

The site consists of a cemetery on the southern side of the road. The graves occur from 3m – 15m from the road. The cemetery is ~60m long. All graves are stone cairns and in a north-south orientation (fig. 8). Several of the graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 19: GRAVES AT TF012**





### TF013

TF013 occurs ~10m north of the road. The site consists of several graves. All graves are stone cairns and in a north-south orientation (fig. 20). The graves might be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 20: GRAVES AT TF013**



## TF014

TF014 occurs ~10m north of the road. The site consists of seven graves. All graves are stone cairns and in a north-south orientation (fig. 21). The graves will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**FIG. 21: GRAVES AT TF014**





## TF015

TF015 occurs ~10m north of the road. The site consists of two graves. All graves are stone cairns and in a west-east orientation (fig. 22). One grave has a *Euphorbia ingens* on top of it. The graves will not be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required.

**FIG. 22: GRAVES AT TF015**





## TF016

TF016 occurs ~10m south of the road. The site consists of a cemetery of ~15 graves. All graves are stone cairns and in a north-south orientation (fig. 23). The graves may be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site.

**FIG. 23: GRAVES AT TF016**



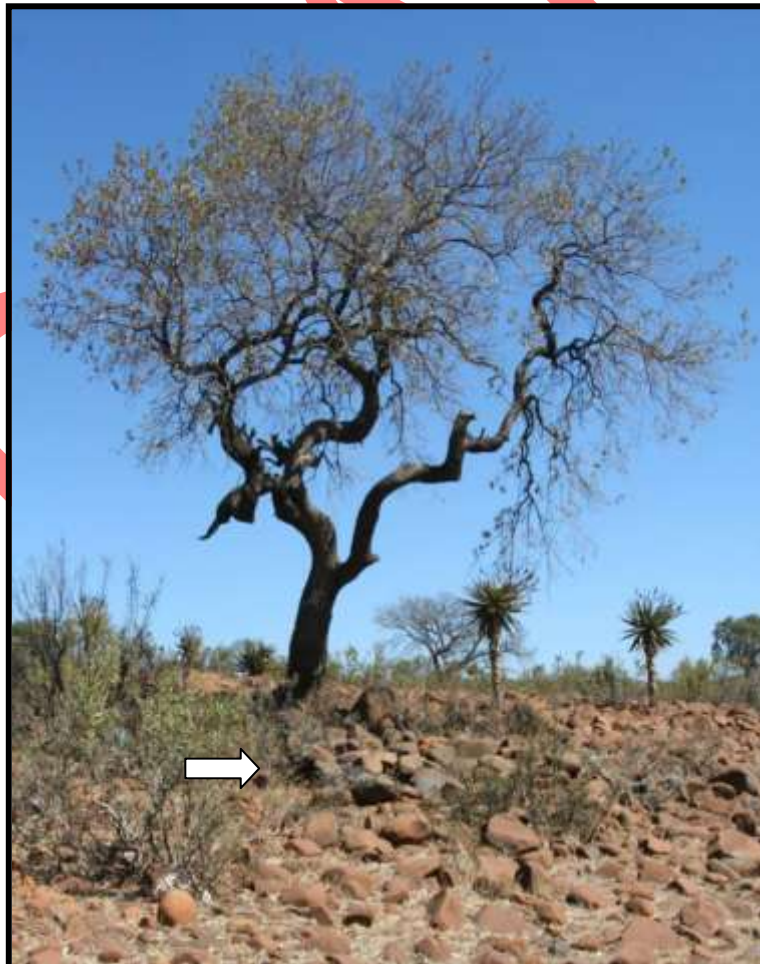
### TF017

TF017 is a stone cairn near the base of a tree 10m to the west of the road (fig. 24). It is not an obvious grave, but appears to demarcate something. It should be treated as a grave.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site.

**FIG. 24: CAIRN AT TF017**



### TF018

TF018 occurs ~20m west of the road. The site consists of a two graves amongst small bushes. All graves are stone cairns and in a north-south orientation (fig. 25). The graves are unlikely to be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site.

**FIG. 25: GRAVES AT TF018**





## TF019

TF019 occurs ~20m west of the road. The site consists of a cemetery. All graves are stone cairns and in a north-south orientation (fig. 26). The graves are unlikely to be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site.

**FIG. 26: GRAVES AT TF019**



## TF020

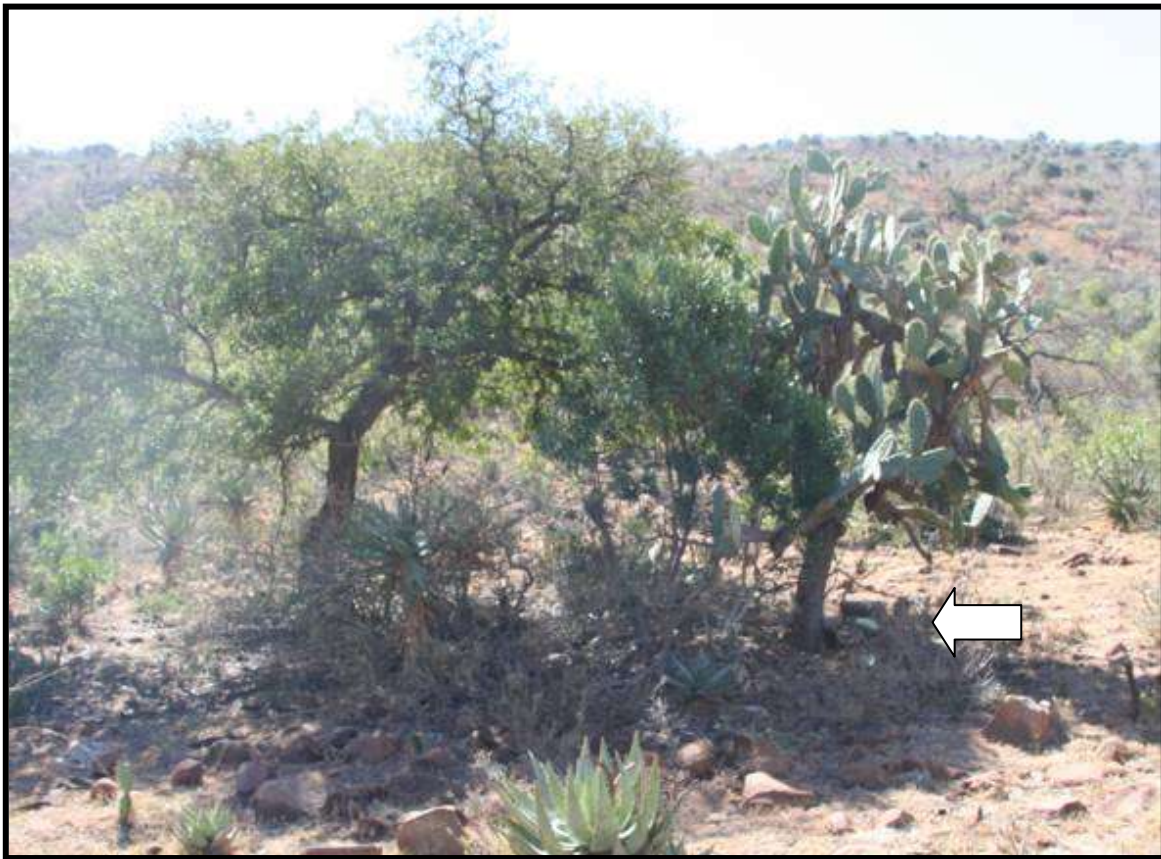
TF020 is a complex of stonewalling, recently abandoned houses, terraces and possible graves (fig. 27). Several upper grinding stones were noted on the terraces. The site occurs ~30-40m south of the proposed road. A possible grave (labelled as GR?) occurs near the base of a cactus tree (fig. 28). More graves may occur in this general area and it should be marked as sensitive for human remains up to the river crossing.

Significance: The site is of high significance

Mitigation: The possible gravesite needs to be demarcated before construction begins. There needs to be a 20m buffer between the grave and the road footprint.

**FIG. 27: STONE WALLING AT TF020**



**FIG. 28: POSSIBLE GRAVES AT TF020****TF021**

TF021 occurs ~5m east of the road. The site consists of a single grave amongst aloes, in a northeast-southwest orientation (fig. 29). The grave will be affected by the road upgrade.

Significance: The site is of high significance

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.



**FIG. 29: GRAVES AT TF021**



Fig. 30 and 31 shows the locations of recorded sites for each Route Alternative.



FIG. 30: LOCATION OF RECORDED SITES ALONG ROUTE ALTERNATIVE 1: MASHUNKA





FIG. 31: LOCATION OF RECORDED SITES ALONG ROUTE ALTERNATIVE 2: NGUBA





## MANAGEMENT PLAN

The Route Alternative 1 has several fatal flaws. The cemeteries are close to the existing road and the road footprint will in all probability affect them. Even if they were demarcated with the 5m buffer, they would still occur within 20m of the road footprint. The nature of roadwork's and the heavy machinery involved will probably affect several graves if the road was to be widened in any manner. Even if the buffer was reduced to 10m, there is still a high chance of graves being affected during construction activity. If graves are disturbed, construction, company may be liable for costs relating to rebuilding the grave to reburial. All construction activity would need to cease as well.

An alternative would be to move the road south onto the edge of the existing agricultural fields and in this way no human graves will be affected. Grave relocation is also an option.

Route Alternative 2 has several cemeteries and or single graves within the 20m buffer. However, there is enough space on the opposite side of the road where these graves occur so as not to impact on them. The graves can be demarcated before construction with the 5m buffer.

All recorded sites from the desktop study and the field survey should have a 50m sensitivity buffer placed around each site.

If any graves are affected or uncovered during construction, then all construction activity needs to stop immediately and Amafa KZN needs to be informed, as well as the local community structures.

## CONCLUSION

A heritage survey was undertaken for the proposed construction of a bridge over the Tugela River and associated road infrastructure linking the Mashunka and Ngubo local communities, east of Tugela Ferry.

Two alternatives were given. Alternative 1 has many graves beside the road making a road upgrade impossible unless grave relocations were undertaken. A 20m buffer between the edge of a grave/cemetery and the development footprint is required. It would be better to move the road south of these graves and onto the borders of the agricultural fields.

Alternative 2 has fewer graves, although a few did fall within the 20m buffer. In these scenarios there is sufficient space on the opposite side of the road, for the road to be realigned.

All graves that occur within 50m of the development footprint need to be clearly demarcated before construction begins. Demarcation consists of a 5m buffer between the graves and the fencing.

**APPENDIX A  
SITE RECORD FORMS**



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF01**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.0 E30 23 30.5 Alt: 577 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF01 is located 1km from here on the southern side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a cemetery on the southern side of the road. The graves occur from 5m – 15m from the road. The cemetery is ~50m long. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF02**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 40.3 E30 23 39.3 Alt: 576 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF02 is located 771m from here ~25m from the southern side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance. The graves will not be affected by the road upgrade, but would require demarcation.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of five graves. All graves are stone cairns and in a north-south orientation. The graves will not be affected by the road upgrade, but would require demarcation.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF03**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.0 E30 23 30.5 Alt: 577 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF03 is located 1km from here to the south of the road and occurs between 5m and 20m from the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF03 is a large cemetery ~100m long. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF04**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.4 E30 23 22.2 Alt: 574 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF04 is located 1.2km from here to the north of the road and occurs between 1m and 20m from the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF04 is a large cemetery ~35m long. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF05**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 40.8 E30 23 13.4 Alt: 573 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF05 is located 1.5km from here to the north of the road and occurs between 1m and 20m from the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF05 is a large cemetery ~30m long. All graves are stone cairns and in a north-south orientation. Some of the graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF06**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.1 E30 23 09.8 Alt: 574 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF06 is located 1.7km from here to the north of the road and occurs 20m from the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF06 is a smaller cemetery. All graves are stone cairns and in a north-south orientation. The graves will not be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF07**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 40.9 E30 23 07.5 Alt: 574 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF07 is located 1.7km from here ~5m from the northern side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of three graves. All graves are stone cairns and in a north-south orientation. The graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF08**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.6 E30 22 54.2 Alt: 574 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF08 is located 2.1km from here to the north and west of the road and occurs between 1m and 100m from the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF08 is a large cemetery ~100m long. All graves are stone cairns and in a north-south orientation. The road makes a turn to the south at the eastern end of the cemetery. Some of the graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF09**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 39.9 E30 23 46.2 Alt: 578 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF09 is located 580m from here to the north of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of two graves. All graves are stone cairns and in a north-south orientation. The graves will not be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF010**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 40.0 E30 23 49.4 Alt: 576 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF010 is located 497m from here to the north of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The road must be widened on the opposite side of the site or the road must be diverted towards the agricultural fields.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of three graves. All graves are stone cairns and in a north-south orientation. The graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF011**

Official Name:

Local Name:

Map Sheet:

GPS reading: 5. TF011 4.9 km 410 m 0:01:10 0:08:08 184° true  
576 m

S28 44 40.3 E30 23 52.5

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF011 is located 410m from here to the north of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of two graves. All graves are stone cairns and in a north-south orientation. The graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF012**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 41.3 E30 23 57.0 Alt: 575 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF012 is located 287m from here to the south side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a cemetery on the southern side of the road. The graves occur from 3m – 15m from the road. The cemetery is ~60m long. All graves are stone cairns and in a north-south orientation. Several of the graves will be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF013**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 42.5 E30 24 01.8 Alt: 575 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF013 is located 147m from here to the north side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of several graves. All graves are stone cairns and in a north-south orientation. The graves might be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF014**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 43.2 E30 24 04.6 Alt: 576 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 4.4km then keep left onto the unpaved road. TF014 is located 68m from here to the north side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of seven graves. All graves are stone cairns and in a north-south orientation. The graves will be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF015**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 43 27.5 E30 21 19.1 Alt: 680 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF015 is located 2.0km from here to the north side of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of two graves. All graves are stone cairns and in a west-east orientation. One grave has a *Euphorbia ingens* on top of it. The graves will not be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF016**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 43 25.0 E30 21 10.3 Alt: 687 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF016 is located 2.3km from here, ~10m south of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a cemetery of ~15 graves. All graves are stone cairns and in a north-south orientation. The graves may be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF017**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 43 27.7 E30 21 02.9 Alt: 713 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF017 is located 2.5km from here, ~10m west of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF017 is a stone cairn near the base of a tree 10m to the west of the road. It is not an obvious grave, but appears to demarcate something. It should be treated as a grave.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF018**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 43 36.7 E30 21 03.1 Alt: 721 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF018 is located 2.5km from here, ~20m west of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a two graves amongst small bushes. All graves are stone cairns and in a north-south orientation. The graves are unlikely to be affected by the road upgrade.



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF019**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 43 36.9 E30 21 03.0

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF019 is located 2.4km from here, ~20m west of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a cemetery. All graves are stone cairns and in a north-south orientation. The graves are unlikely to be affected by the road upgrade.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF020**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 40.7 E30 20 59.9 Alt: 582 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right after 1.1km onto the P280. TF020 is located 12.9km from here, ~30-40m south of the proposed road.

**SITE DESCRIPTION:**

Type of Site: Settlement Complex and cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The possible gravesite needs to be demarcated before construction begins. There needs to be a 20m buffer between the grave and the road footprint.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

TF020 is a complex of stonewalling, recently abandoned houses, terraces and possible graves. Several upper grinding stones were noted on the terraces. A possible grave (labelled as GR?) occurs near the base of a cactus tree. More graves may occur in this general area and it should be marked as sensitive for human remains up to the river crossing.

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: **TF021**

Official Name:

Local Name:

Map Sheet:

GPS reading: S28 44 15.7 E30 21 13.7 Alt: 712 m

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From the Shell Garage at Tugela Ferry, drive south on the R33, turning right almost immediately onto the D1272. Follow the D1272 for 8.3km then turn left onto the unpaved road. TF021 is located 2.3km from here, ~5m east of the road.

**SITE DESCRIPTION:**

Type of Site: Cemetery

Merits conservation: Yes. The site is of high significance.

Threats: Yes

What threats: MASHUNKA AND NGUBO COMMUNITY ACCESS ROAD AND BRIDGE

Mitigation: The site needs to be demarcated before construction begins. There should be a 5m buffer between the fence and the grave(s). There needs to be a 20m buffer between the grave(s) and the road upgrade. If this buffer cannot be met, then grave relocation may be required. The cemetery will need to be demarcated before construction.

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 03/09/2014

Owner:

References:

**Description of site and artefactual content.**

The site consists of a single grave amongst aloes, in a northeast-southwest orientation. The grave will be affected by the road upgrade.