

**HERITAGE SURVEY OF THE PROPOSED JOZINI
BULKWATER SUPPLY, KWAZULU-NATAL**

**FOR THE MSA GROUP: ENVIRONMENTAL, LEGAL &
MINING SERVICES**

DATE: 16 MAY 2010

**By Gavin Anderson
Umlando: Archaeological Tourism and Resource
Management
PO Box 102532, Meerensee, 3901
Phone/fax: 035-7531785 Fax: 0865445631
cell: 0836585362**



TABLE OF CONTENT

INTRODUCTION..... 3
KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008..... 3
GENERAL METHOD OF HERITAGE IMPACT ASSESSMENTS..... 6
 Defining significance..... 7
DESCRIPTION OF TERMINOLOGY..... 9
RESULTS..... 15
CONCLUSION..... 15

TABLE OF FIGURES

FIG. 1 LOCALITY MAP OF THE PROPOSED BULK WATER SUPPLY
 INFRASTRUCUTRE..... 12
FIG. 2 APPROXIMATE STUDY AREA OF THE PROPOSED BULK WATER SUPPLY
 INFRASTRUCUTRE..... 13
FIG. 3: PROPOSED LOCATION OF THE BULK WATER SUPPLY INFRASTRUCUTRE 14

INTRODUCTION

Umlando cc was contracted by The MSA group to undertake a Phase 1 desktop survey of the proposed Phase 1 of the proposed installation of bulk water infrastructure for Jozini, KwaZulu-Natal (fig's 1 -2). The purpose of this report is to determine the sensitivity of heritage sites along the pipeline route.

The impacts on the area will be:

- The installation of a 1.2 Ml/day Package Water Treatment Works (WTW-1) situated on the northern banks of the Pongola River in an old gravel quarry downstream of the Pongolapoort Dam;
- The construction of Phase 1 of the Water Abstraction Works (WAW) which includes a pipe system attached to the existing weir, downstream of the Pongolapoort Dam;
- The installation of bulk mains of 160 and 400 diameters respectively from the WTW-1 to two pump stations and reservoirs;
- Reticulation from the reservoirs to the supply area (i.e. stand connections).

The pipeline will extend from the Pongola River, below the Jozini Dam wall, for approximately 4km northwards. The route has not been finalised as this will be done in a detailed design phase. Routes have been preliminary designed and are indicated in figure 3.

KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008

“33. General protection: Structures.—

- a) 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.

- b) 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.
- 2) The Council may, by notice in the *Gazette*, exempt—
- (a) a defined geographical area; or
 - b) 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.
- 3) A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.

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

- (a) the grave of a victim of conflict;
- (b) a cemetery made up of such graves; or
- (c) 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.

35. General protection: Traditional burial places.—

- a) No grave—
- b) not otherwise protected by this Act; and
- c) 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.

- (1) The Council may only issue written approval once the Council is satisfied that—

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

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

- a) 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.
 - (1) 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.
 - (2) 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.
 - (3) 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.
 - (4) 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.

- (5) 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)

GENERAL METHOD OF HERITAGE IMPACT ASSESSMENTS

The first step is the desktop assessment. Here I consult the various databases. These databases contain most of the known heritage sites in KwaZulu-Natal, and known memorials and other protected sites, battlefields and cemeteries in southern Africa. We also consult with an architect who has specialised in historical buildings, palaeontologist, and an historian where necessary.

The second phase is a survey that consists of a foot survey where the study area is located. 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, especially pottery. Sites of medium significance have diagnostic artefacts and these are 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. We attempt to recover as many artefacts from these sites by means of systematic sampling, as opposed to sampling diagnostic artefacts only.

A management plan for each site will be given as well as a general management plan for the area. This will include a heritage audit.

Defining significance

Archaeological 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, i.e. a site that has the first diagnostic material of its kind?

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.

DESCRIPTION OF TERMINOLOGY

Archaeological sites are divided into three general periods: Stone Age, Iron Age and Historical. These classifications are used for convenience and do not reflect a social evolutionary trajectory of human development; rather, they refer to the artefacts found on the site.

Stone Age

The Stone Age is divided into three phases: Early Stone Age (ESA), Middle Stone Age (MSA) and Late Stone Age (LSA).

The ESA in southern Africa began approximately two million years ago and ended about 120 000 years ago. These sites are characterised by stone tools such as hand axes, cleavers and choppers. In KwaZulu-Natal they are often in secondary contexts,

in which case they are only significant from a geological point of view. Hominid skeletal remains are rare, and so far none have been discovered in KwaZulu-Natal. These sites are found in open areas, and are ubiquitous in KwaZulu-Natal.

The MSA dates from 120 000 to 30 000 years ago. The main archaeological evidence from this time period consists of stone tools, although organic remains such as bone are occasionally found. The age of this period, as with the ESA, is often to the detriment of the preservation of organic materials, hence the predominance of stone tools. MSA sites occur in both rock shelters and as open sites, and tend to be found on hills in many areas of KwaZulu-Natal.

The LSA dates from 30 000 years ago to the end of the last century. This period is characterised by an increase in organic artefacts, yet stone tools still dominate the archaeological record. LSA sites tend to be located in rock shelters, although they do occur in the open.

Iron Age

The Iron Age refers to the period of settlement in southern Africa by agriculturists. These people spoke a Bantu language, herded cattle, sheep and goats, and cultivated crops such as sorghum, millet, legumes and various squashes. The Iron Age is divided into two main phases: Early Iron Age (EIA) and Late Iron Age (LIA). The main differences between these two periods is in the pottery styles, settlement patterns and architectural styles. Both phases are restricted to summer rainfall areas in southern Africa.

The EIA dates from 1 700 to 1 000 years ago. Settlements occur below the 1 000m contour line and in areas with more than 300mm of rainfall per annum. They have been found in major river valleys such as the Tugela River Valley, close to rivers and around coastal lakes. Settlements may be approximately twelve hectares in size, although they are often smaller. The pottery styles tend to show diachronic change; that is, there are stylistic similarities between sub-periods.

The LIA dates from 1 000 to 180 years ago. These sites are different to those of the EIA in their pottery styles and settlement patterns. Settlements are located in savannah and grassland areas and often on the upper slopes of hills. The introduction of maize in the 1700s resulted in a change in the form of several artefacts such as grindstones. There is also an introduction of foreign, or exotic, artefacts such as ceramics and glass beads from the Middle and Far East and Europe, possibly indicating a more extensive trade network than existed during the EIA.

The Historical period dates from approximately AD 1829 to fifty years ago in KwaZulu-Natal. These sites, in general, include those associated with both black and white agriculturists.

FIG. 1 LOCALITY MAP OF THE PROPOSED BULK WATER SUPPLY INFRASTRUCTURE

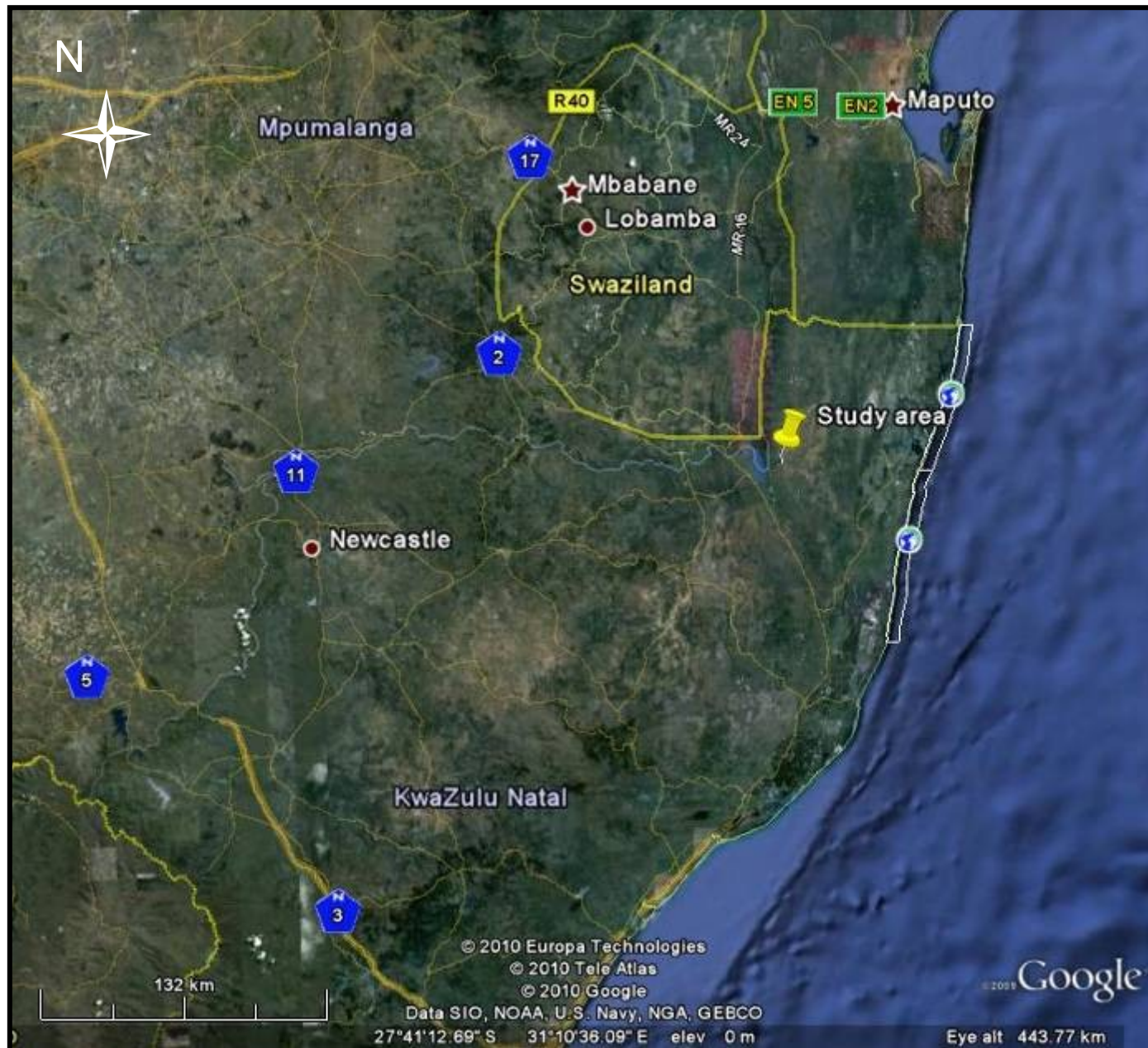


FIG. 2 APPROXIMATE STUDY AREA OF THE PROPOSED BULK WATER SUPPLY INFRASTRUCTURE

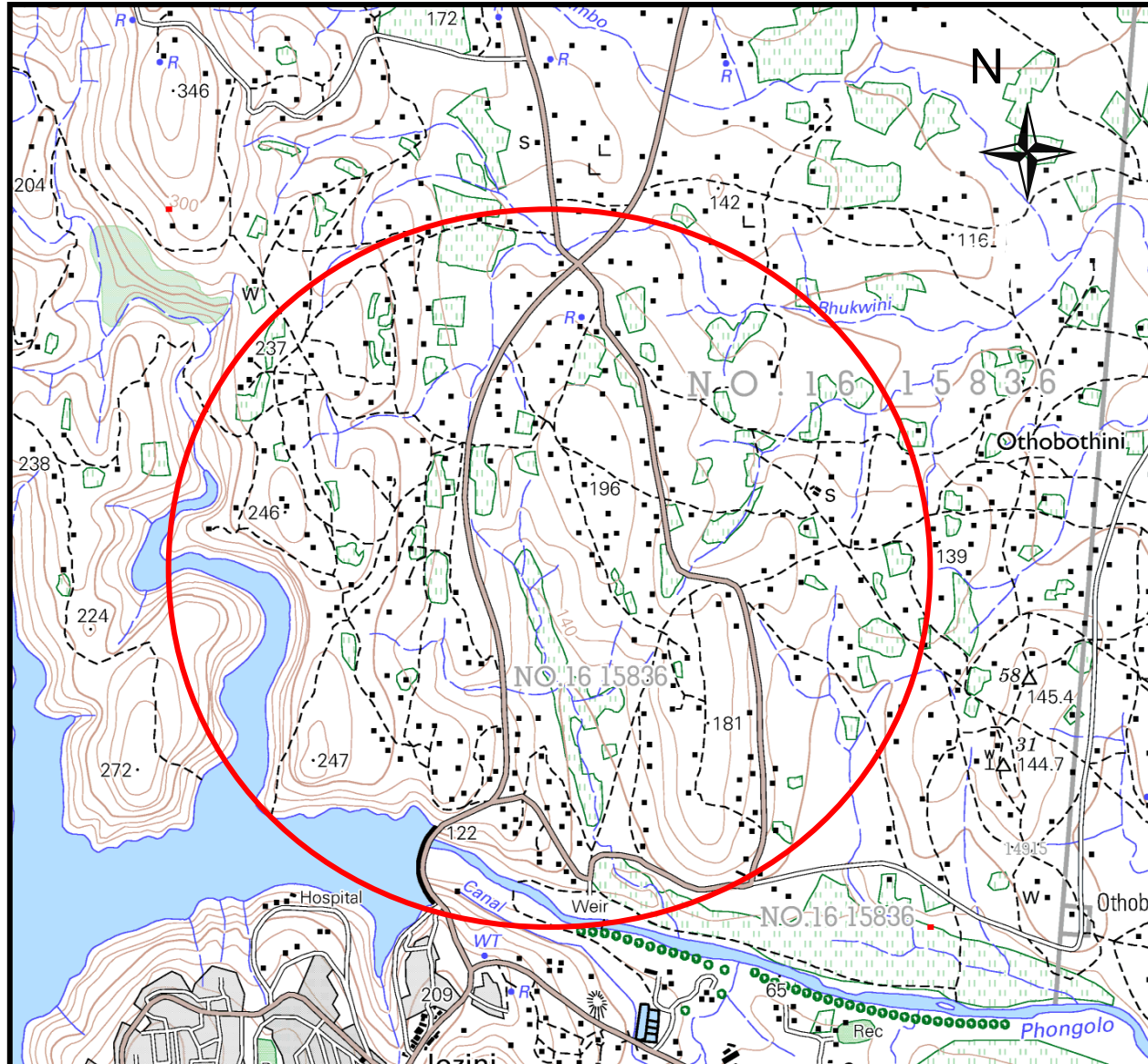
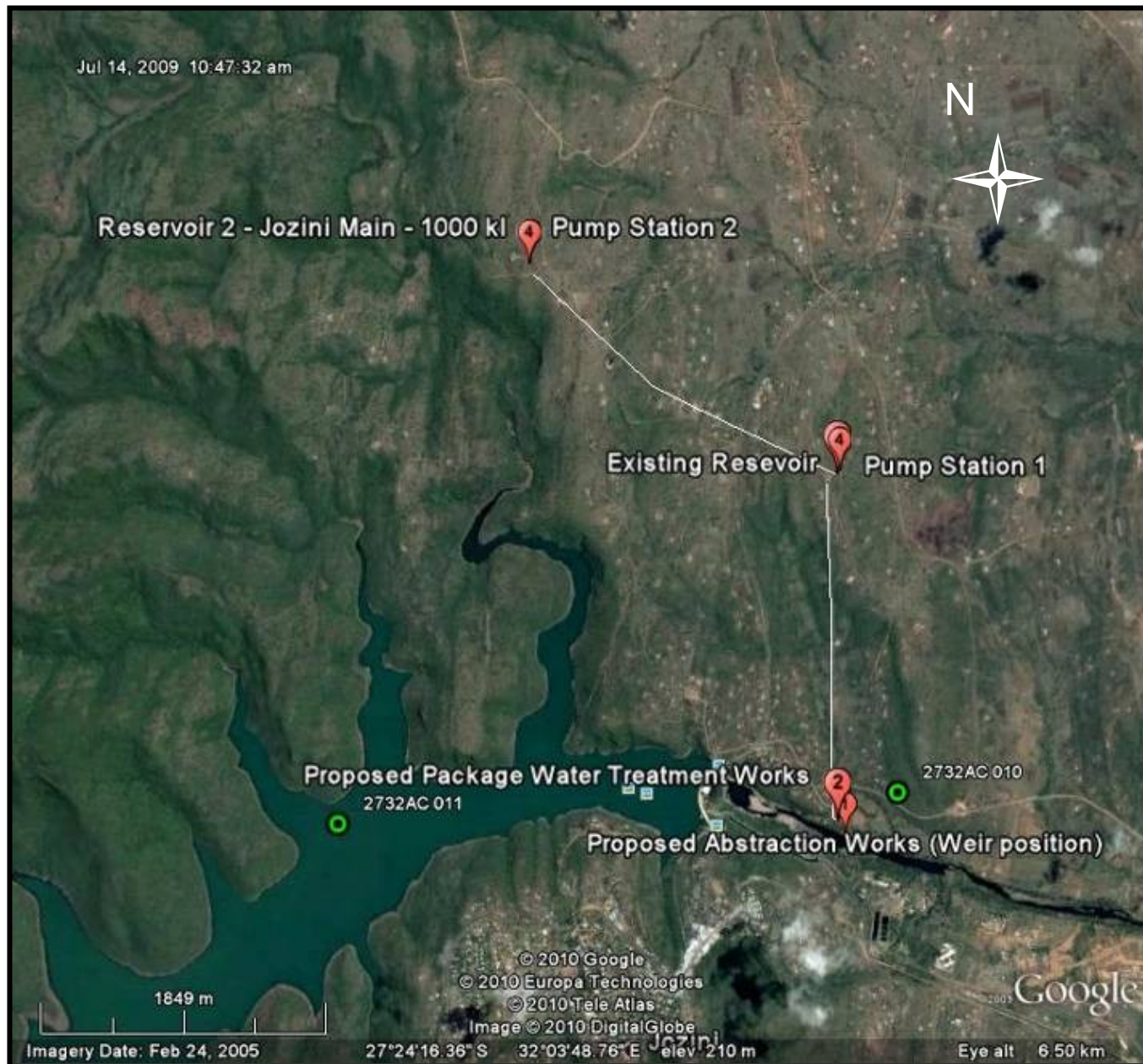


FIG. 3: PROPOSED LOCATION OF THE BULK WATER SUPPLY INFRASTRUCTURE¹



¹ White line is general route

RESULTS

No archaeological sites were noted in our database for the route. The closest site to the pipeline route is a site named '2732AC 010'. This site is an Early Stone Age that occurs some 200m east of the route, and near the abstraction point.

The paucity of sites is a result of minimal surveys in this area. A heritage survey of the area should yield several Early, Middle and Late Stone Age sites, as well as Late Iron Age and Historical Period sites. Umlando has recorded similar sites along the Makhatini flats, over the last few years.

I do not believe that there will be heritage sites that will require rerouting, with the exception of human graves. The route passes several existing settlements, and presumably, some recently abandoned settlements. These settlements will probably contain human graves. The route will need to be deviated in the case of human graves.

CONCLUSION

The survey results indicated there are very few known heritage sites along the route. However, this is due to minimal heritage surveys in this specific area. Several sites do exist in the general area.

The route needs to be surveyed before construction commences. I suggest that it is surveyed soon after the route has been finalised, in case deviations are required.