

**HERITAGE SURVEY OF THE PROPOSED
CAUSEWAY UPGRADES ON THE P280, INKOSI
LANGALIBALELE LOCAL MUNICIPALITY, KZN
FOR HANSLAB ENVIRONMENTAL CONSULTANTS**

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EXECUTIVE SUMMARY

The Department of Transport is currently addressing the needs of previously disadvantaged rural areas by providing service delivery by means of infrastructure development to ensure the safety of road users. DoT proposes to upgrade and construct a high level bridge on the P280 associated with the current road network

Hanslab Environmental Services contracted Umlando to undertake the HIA for the causeway. A 50m radius around the causeway was inspected. Only two isolated MSA tools were noted.

The proposed causeway will not affect sensitive palaeontological deposits.

No further HIA is required.

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Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

INTRODUCTION

The Department of Transport (Applicant) is currently addressing the needs of previously disadvantaged rural areas by providing service delivery by means of infrastructure development to ensure the safety of road users.

The Applicant proposes to construct the following structures associated with the road network. The construction is as follows:

Provincial Road 280 (P280)

- ❖ Proposed new high level bridge on Main Road 280 (P280) at KM 5.0 over the Umsobotshe River:
- ❖ Proposed High level bridge on Main Road 280 (P280) at KM 21.1 over the Idumane River.

Hanslab Environmental Consultants contracted Umlando to undertake the heritage survey of the two causeways.

FIG. 1 GENERAL LOCATION OF THE PROPOSED DEVELOPMENT

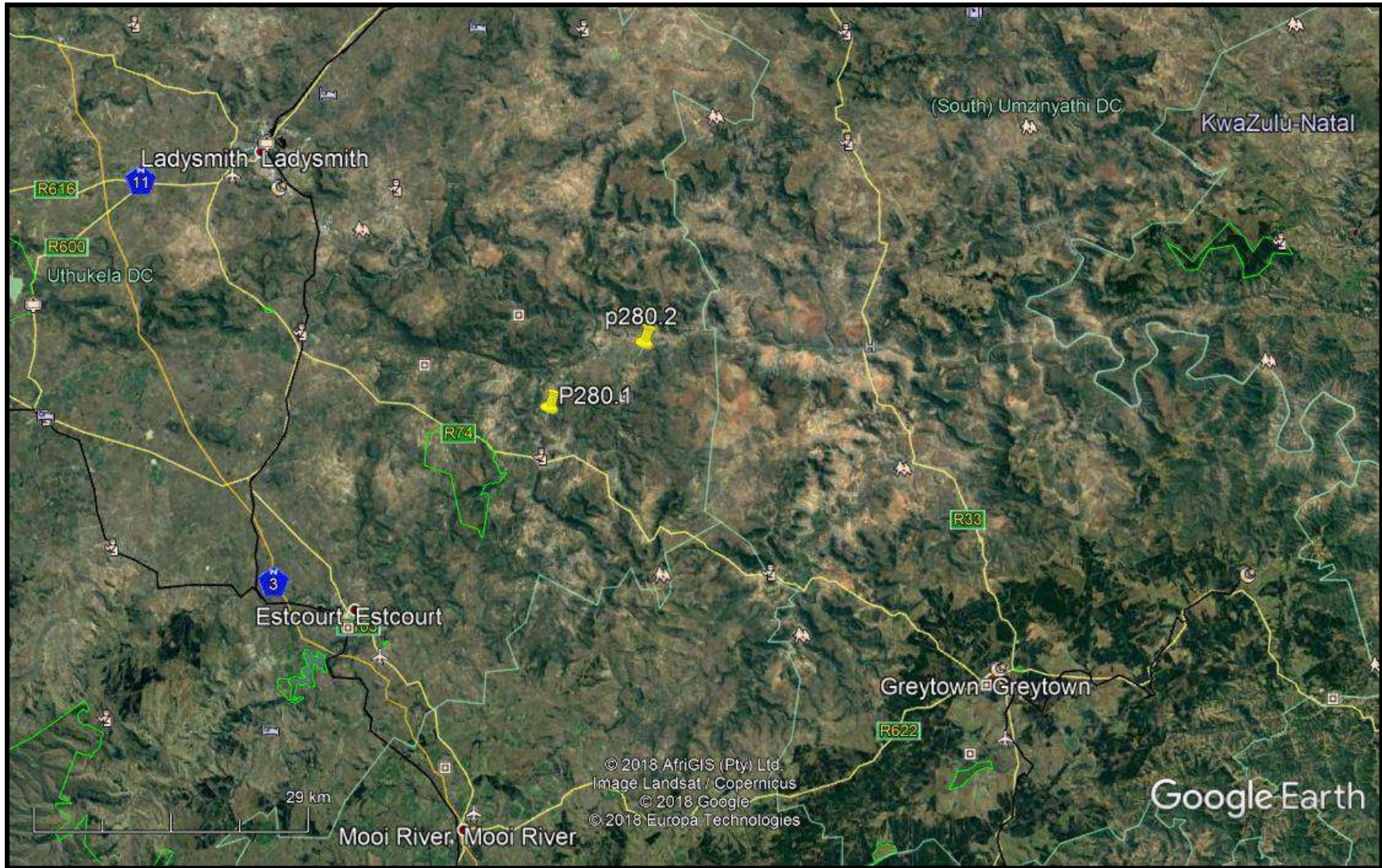


FIG. 2A: AERIAL OVERVIEW OF THE PROPOSED UMSOBOTSHE RIVER CAUSEWAY



FIG. 2B: AERIAL OVERVIEW OF THE PROPOSED IDUMANE RIVER CAUSEWAY



FIG. 3A: TOPOGRAPHICAL MAP OF THE PROPOSED UMSOBOTSHE RIVER CAUSEWAY

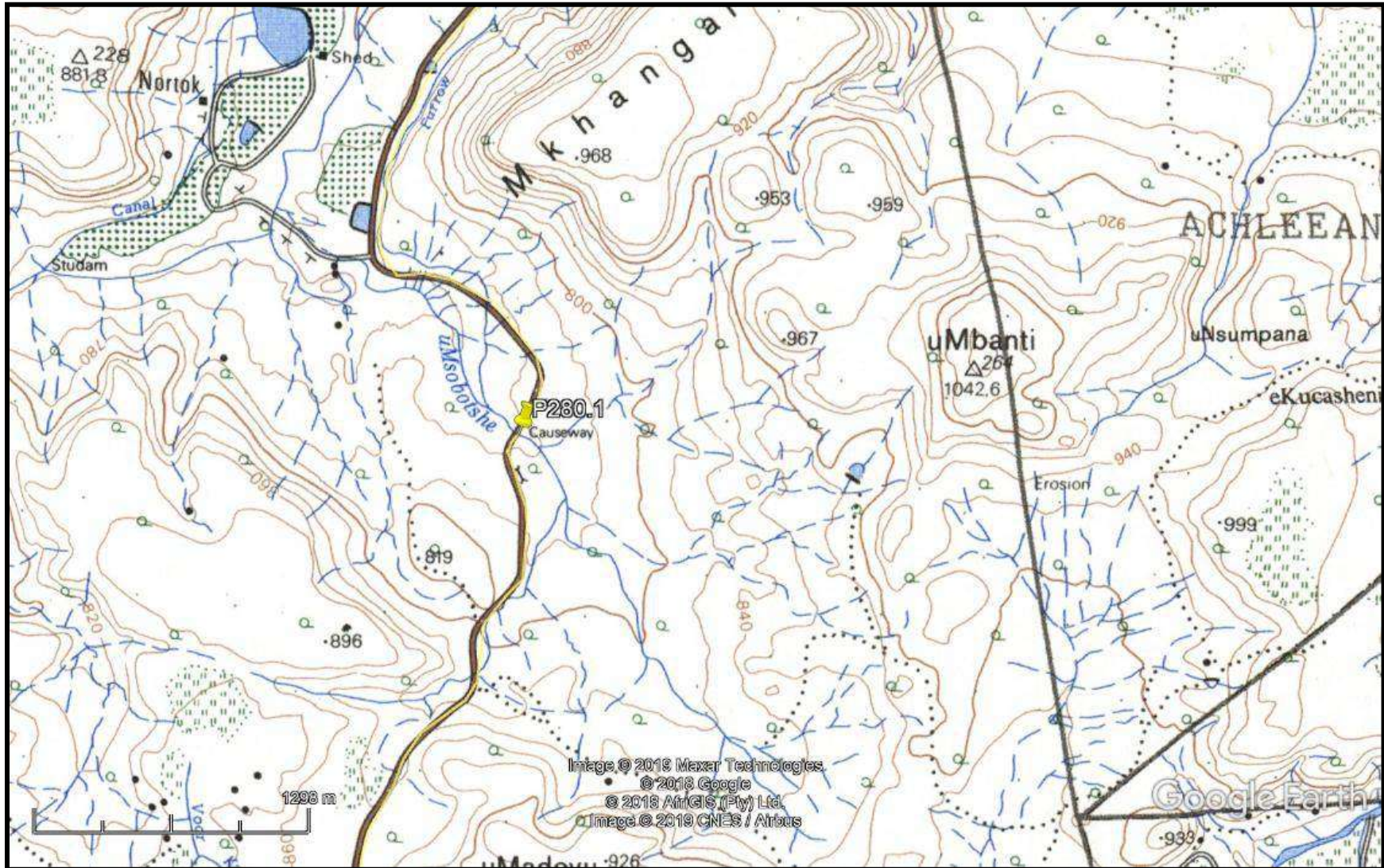
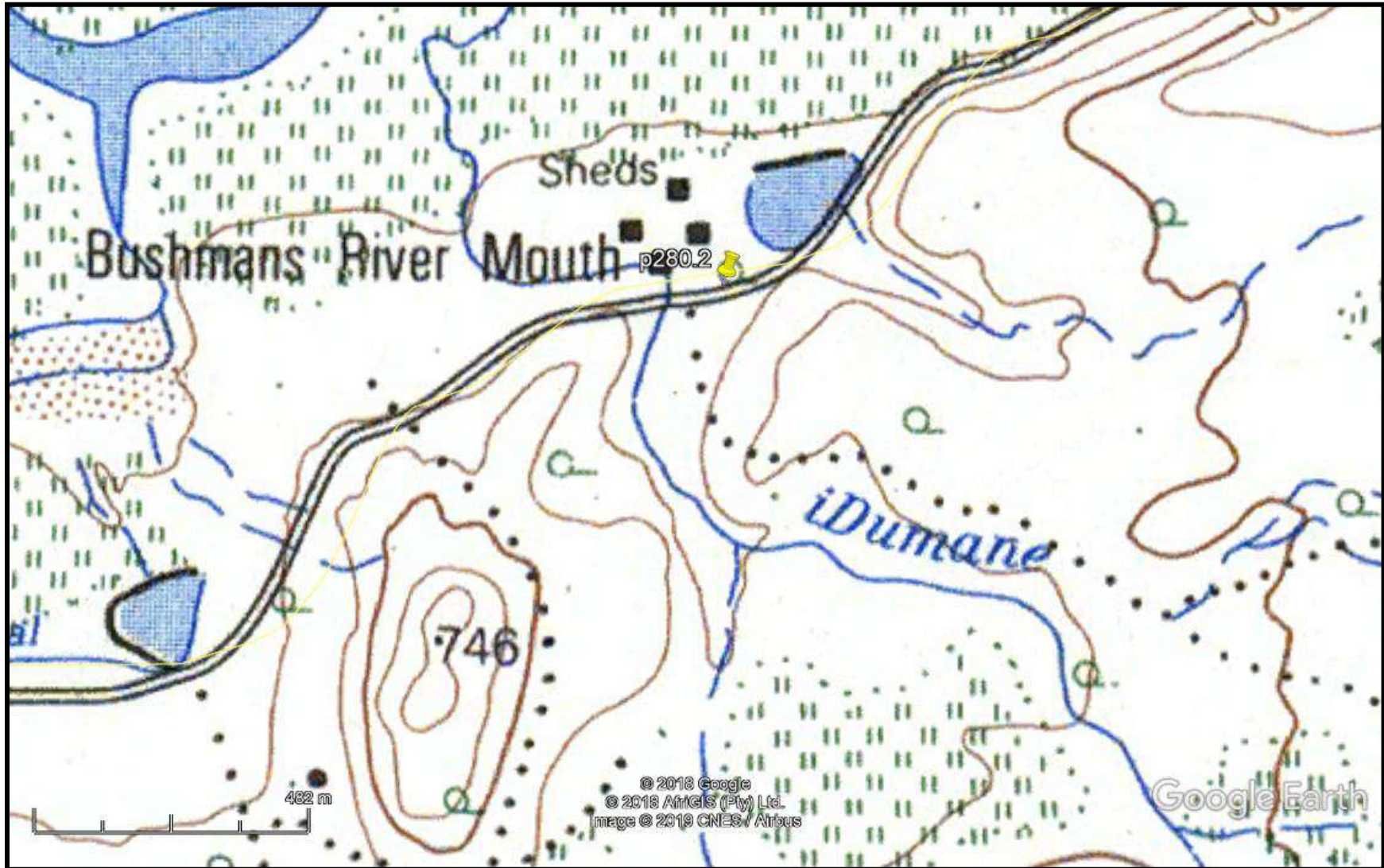


FIG. 3B: TOPOGRAPHICAL MAP OF PROPOSED IDUMANE RIVER CAUSEWAY



KWAZULU NATAL AMAFA AND RESEARCH INSTITUTE, ACT 05, 2018

“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.”

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. This databases contains 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 1st and 2nd edition 1:50 000 topographical and 1937 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 archaeological surveys. No known sites occur in the study areas; however, fig. 4 shows that the general area has a high concentration of archaeological sites. These sites cover the last 1.5 million years of southern African archaeology.

Fig. 5 indicates that the Farm Bushman's River Mouth was formerly surveyed in 1852 and proclaimed in 1853. No buildings are shown on the map, but colonial farm occupation would have happened shortly thereafter. There are currently no SG diagrams for the Weenen Townlands site.

FIG. 4: LOCATION OF KNOWN HERITAGE SITES IN THE GENERAL AREA

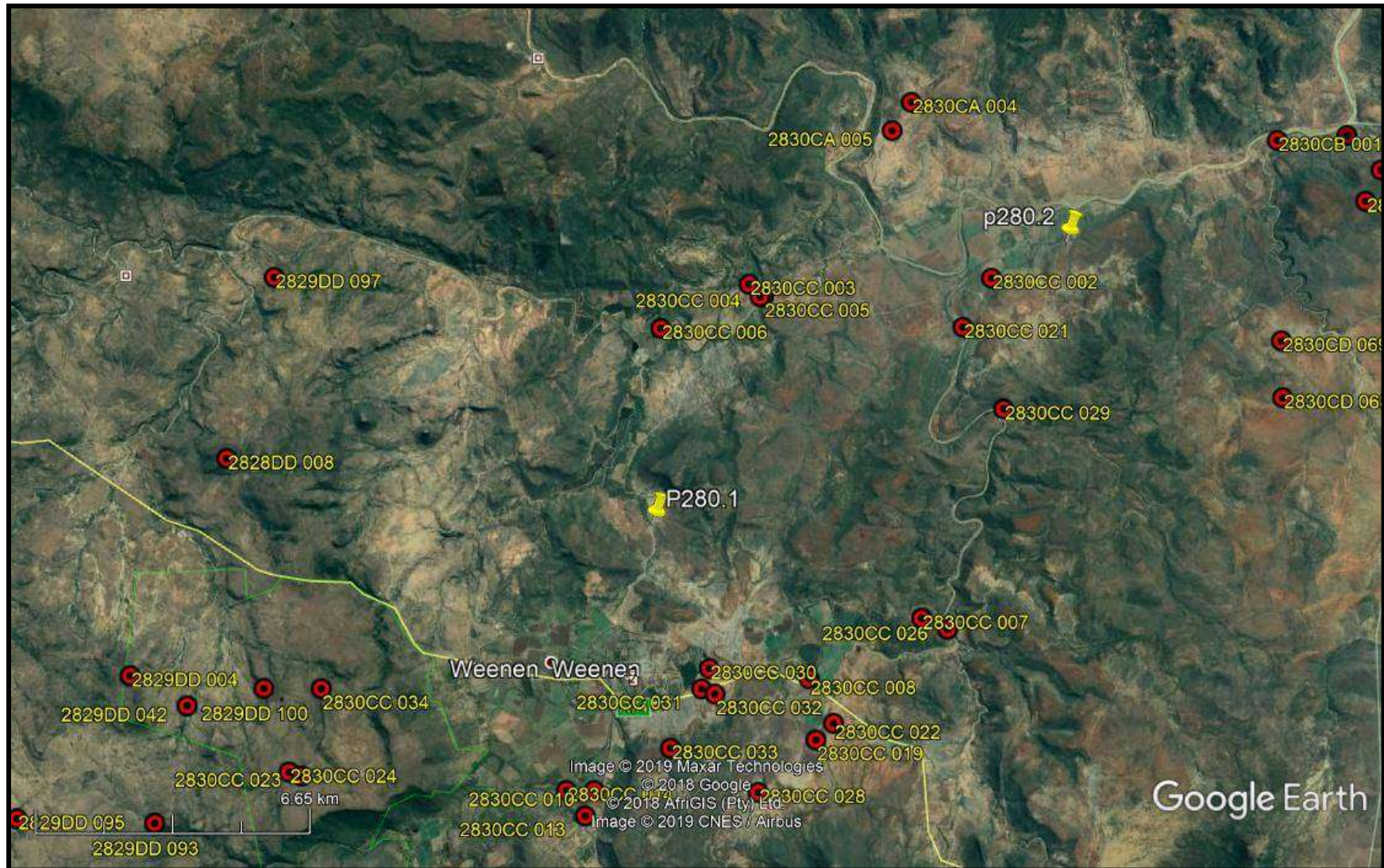


FIG. 6A: LOCATION OF CAUSEWAY ALONG THE UMSOBOTSHE RIVER IN 1937

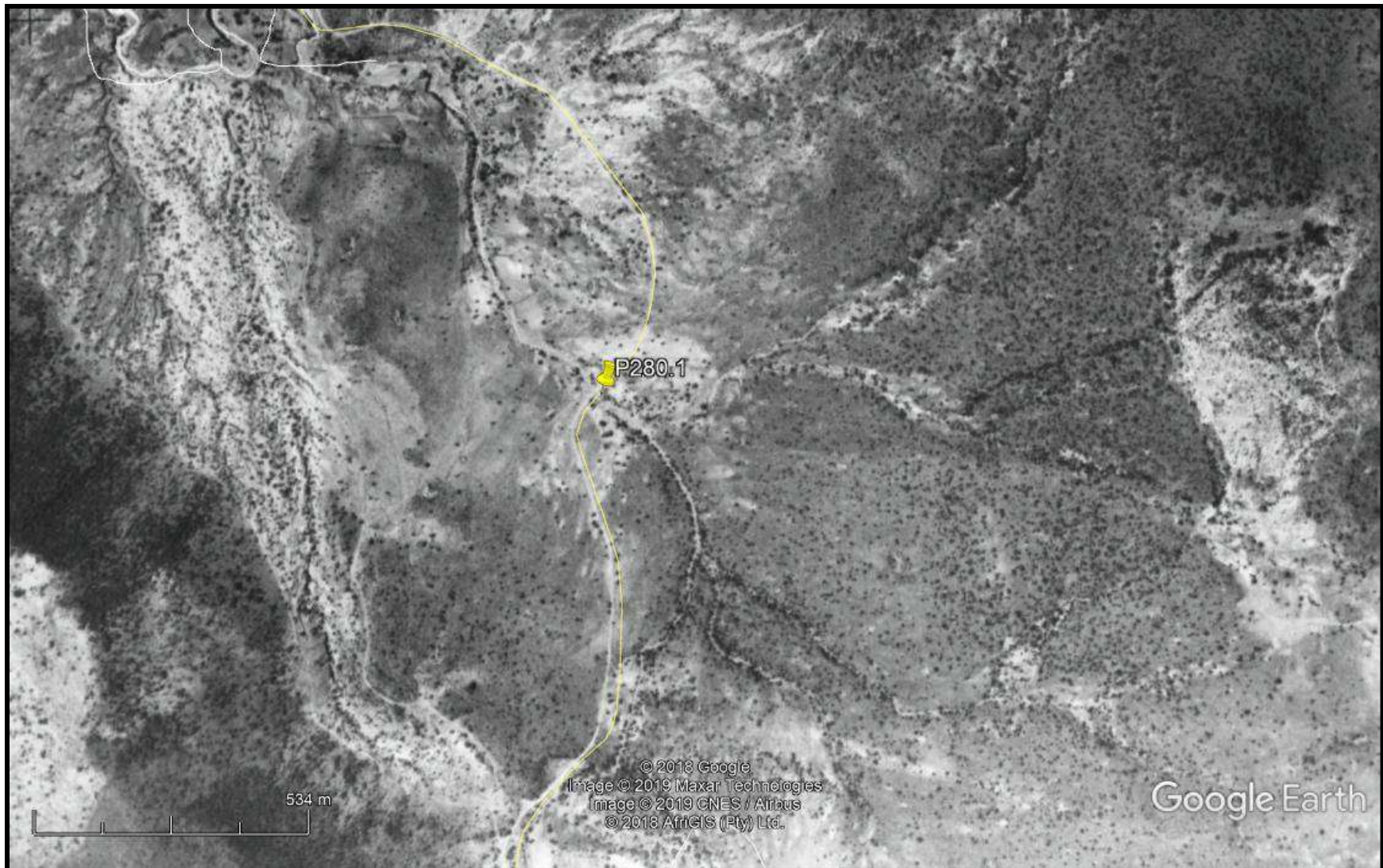


FIG. 6B: LOCATION OF THE IDUMANE RIVER CAUSEWAY IN 1937

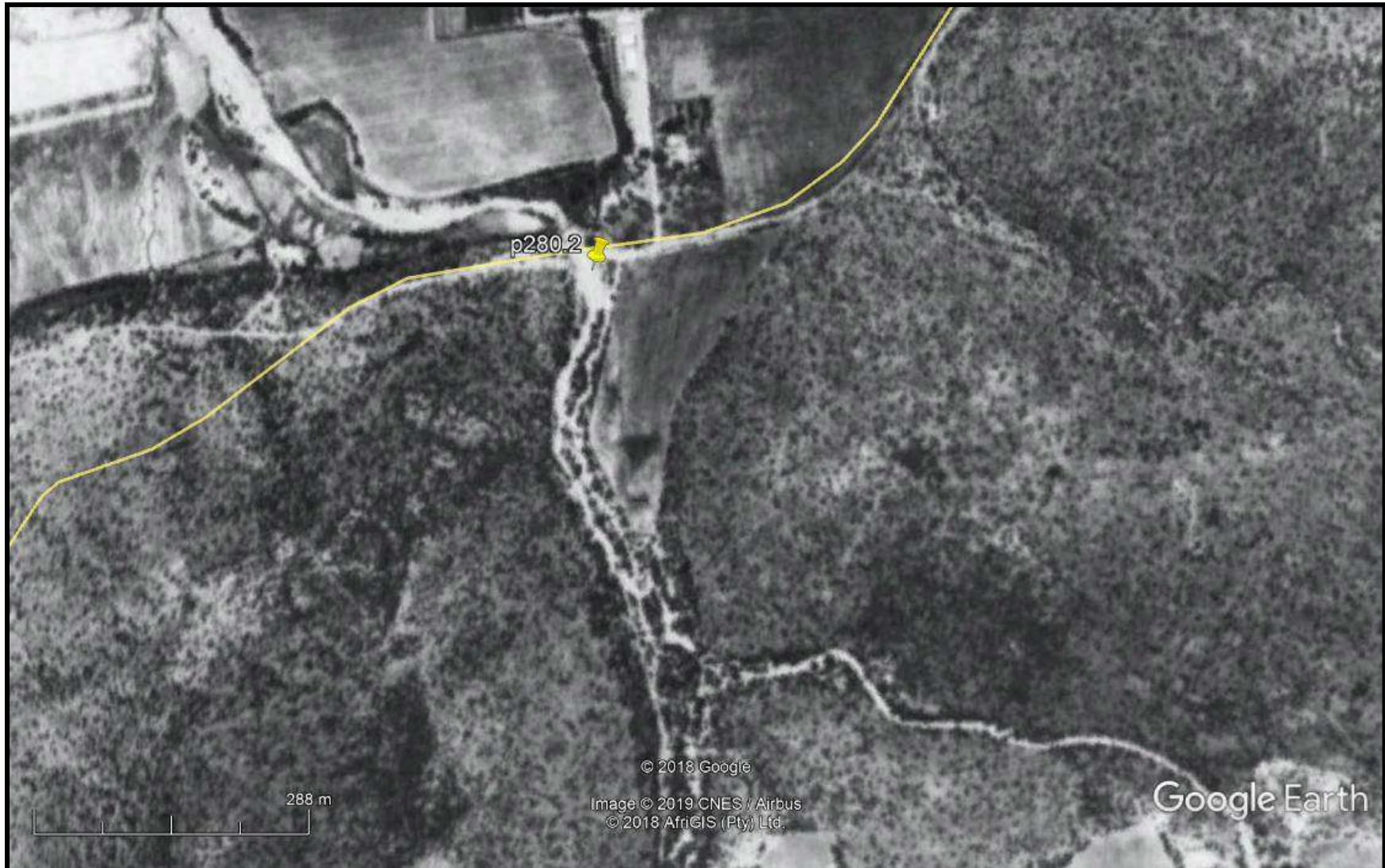


FIG. 7A: LOCATION OF THE UMSOBOTSHE RIVER CAUSEWAY IN 1972

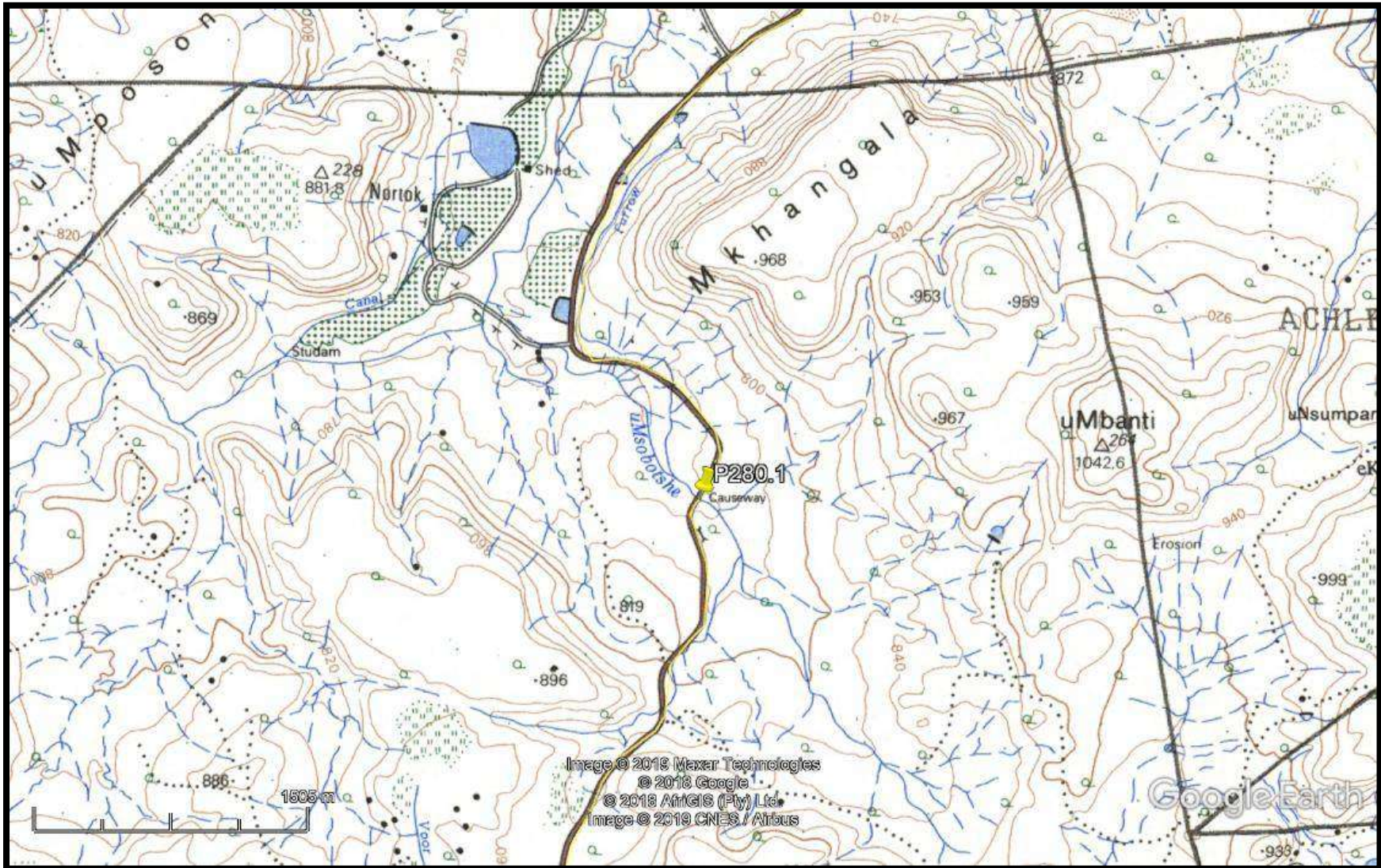
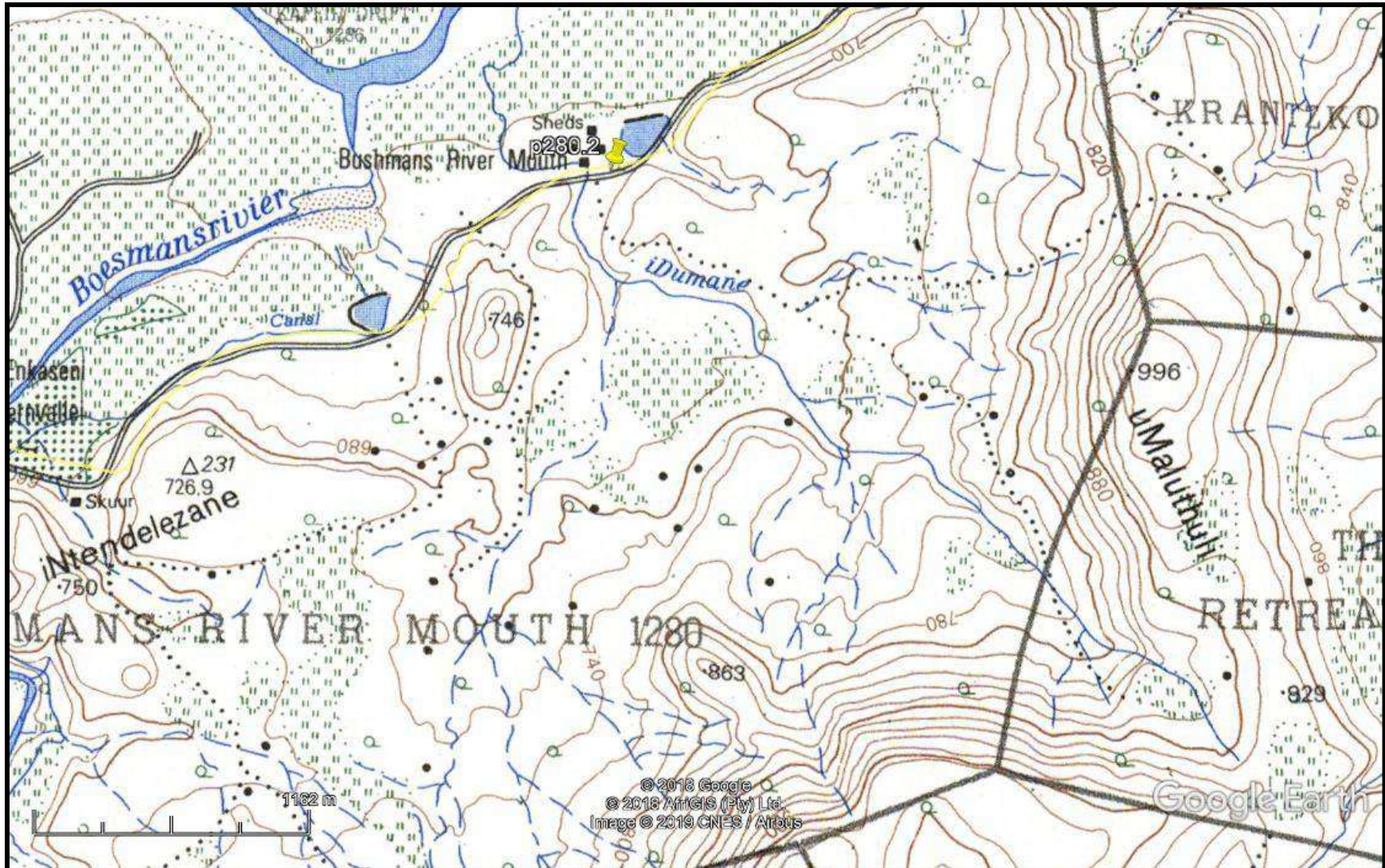


FIG. 7B: LOCATION OF THE IDUMANE RIVER CAUSEWAY IN 1972



The 1937 (fig.'s 6a-b) and 1972 (fig.'s 7a-b) show that some form of causeway was already established at each crossing. These were presumably upgraded over time.

PALAEONTOLOGICAL SENSITIVITY

Fig. 8 shows the palaeontological sensitivity for the two causeways. The Umsobotshe River causeway is in an area of low palaeontological sensitivity. The Inmdumane River causeway is in an area of medium sensitivity.

FIG. 8: PALAEONTOLOGICAL SENSITIVITY MAP



Neither causeways will excavate into the ground; rather they will build onto it, and thus not affect any possible deposits. Moreover the upper 1m of the rock surface is weathered and will not contain fossiliferous material. Fig. 9 shows the existing causeways.

No further palaeontological mitigation is required

FIELD SURVEY

The field survey was undertaken on 9 October 2019. The area had very good ground visibility due to the end of the winter season. The areas 50m around the causeways were surveyed for –potential sites. The first proposed causeway is shown in fig. 9 and the second in fig. 10.

Both causeways are built up above the ground and have minimal excavations. The first causeway over the Umsobotshe River requires no further mitigation.

The area at the second causeway over the Indumane River has a historical wall 15m downstream from the causeway (fig. 11). This is a retaining wall and a support for a water pipe. The area to the east of the causeway is the original entrance to the Farm Bushman’s River Mouth 1280. This area and the area south of the road are potential areas for archaeological deposit. Only one pottery shard was noted on the southern side of the road (fig. 11), but the eastern side had several artefacts from the last 100+ years. The large trees at the entrance are well established by 1937 (fig. 7b) and could be viewed as having historical and meteorological significance. The latter would be in the form of providing a dendrochronological sequence for 100+ years.

Any excavations 15m to the east of causeway would need to be monitored by an archaeologist. If the nearby quarry is used for infill, then it will require a PIA.

FIG. 9: EXISTING CAUSEWAY AT UMSOBOTSHE RIVER



FIG. 10: EXISTING CAUSEWAY AT INDUMANE RIVER



FIG. 12: RETAINING WALL AND POTTERY SHERD AT INDUMANE RIVER



MANAGEMENT PLAN

The causeway at the Umsobotshe River requires no further mitigation.

The causeway at the Indumane River requires mitigation as follows:

- The retaining wall cannot be affected in any manner. The causeway must make sure that the new river route will not cause damage to the wall. If it does cause (indirect or direct) damage, then a permit will be required from the Amafa KZN Built Environment.
- The existing trees near the original entrance, or east of the river and north of the road, should not be affected. These trees have potential scientific value and are protected by the heritage legislation.
- The area near the original farm entrance (east of the river and north of the road) should not be affected. Any excavations 15m east of the river might need monitoring by an archaeologist, during construction phase.
- If this area will be disturbed a permit from Amafa KZN will be required.

Comments on the final plans for the causeway can be made at a desktop level.

CONCLUSION

A heritage survey was undertaken for two proposed high level bridges on the P280, north of Weenen. Both areas have causeways that date back to at least the 1930s.

The causeway on the Umsobotshe River requires no further mitigation in terms of HIA and PIA. The causeway on the iDumane River has potential historical artefacts and trees that should not be affected.. These area will require monitoring if any excavations occur near the sensitive areas.

The final construction plan will determine the full extent of the impacts.

REFERENCES

2830CC Weenen 1972, 1996

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EXPERIENCE OF THE HERITAGE CONSULTANT

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

DECLARATION OF INDEPENDENCE

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.

A handwritten signature in black ink, appearing to read 'G. Anderson', with a horizontal line underneath.

Gavin Anderson
Archaeologist/Heritage Impact Assessor