

**HERITAGE SURVEY OF THE NGCOBO WWTW,
EASTERN CAPE.**

FOR EOH COASTAL ENVIRONMENTAL SERVICES

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By Gavin Anderson

**Umlando: Archaeological Surveys and Heritage
Management**

PO Box 102532, Meerensee, 3901

Phone: 035-7531785 Fax: 0865445631

Cell: 0836585362

Email: umlando@gmail.com



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INTRODUCTION

Chris Hani District Municipality is proposing the development of waste water treatment works (WWTW) and a sewage pipeline in Ngcobo Eastern Cape. The existing municipal sewage works are under-capacitated to treat the increased sewage production due to the expansion of the town of Ngcobo.

The proposed activity involves:

- the decommissioning of the existing WWTW
- the construction of a new WWTW with a capacity to treat approximately 3Mℓ of waste water per day facility south of Ngcobo
- the required 250 to 315 mm diameter pipeline (approximately 3.5 km) for the town of Ngcobo.

The location of the line and proposed WWTW is shown in figures 1- 3.

FIG. 1 GENERAL LOCATION OF THE NGCOBO WWTW

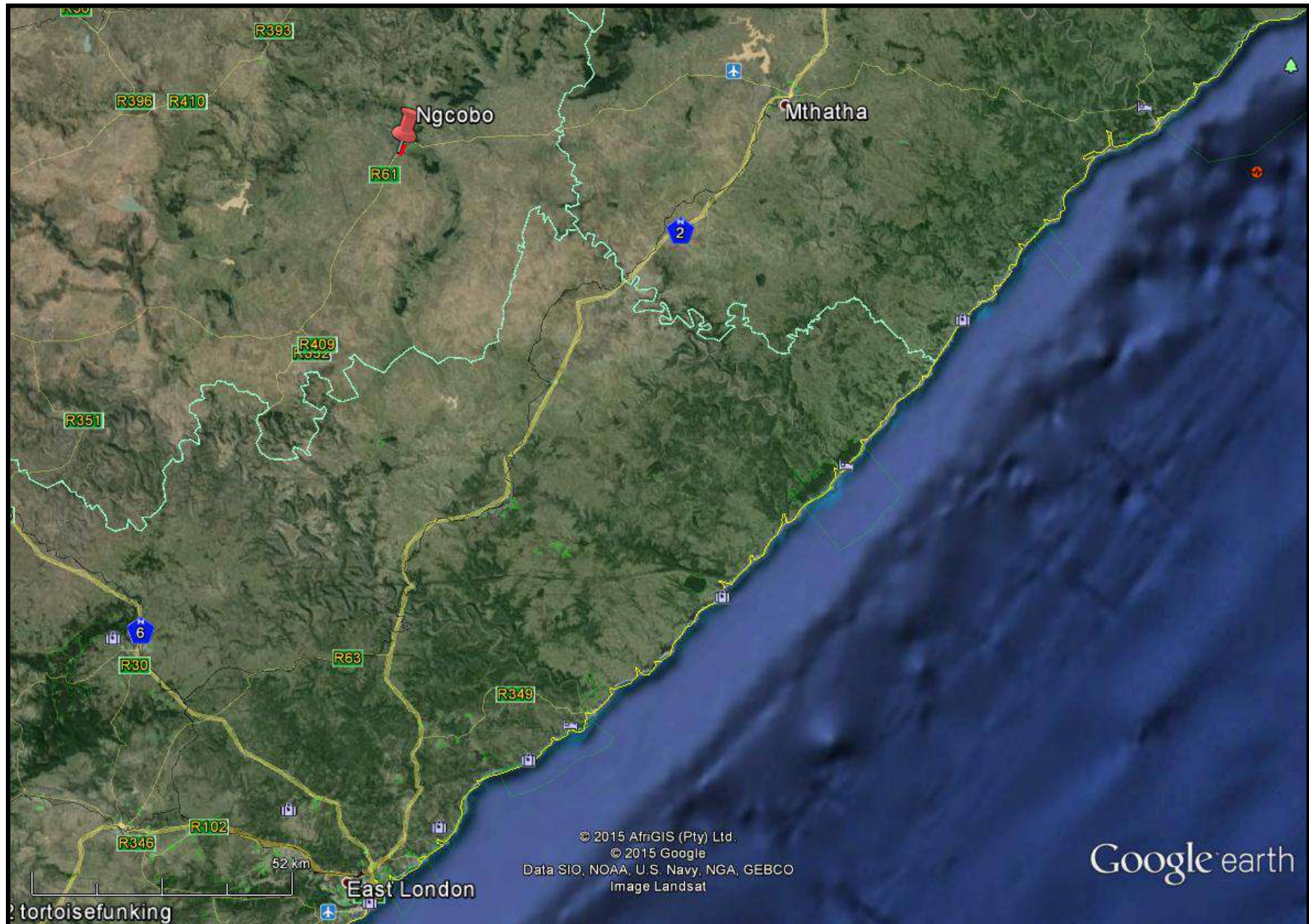
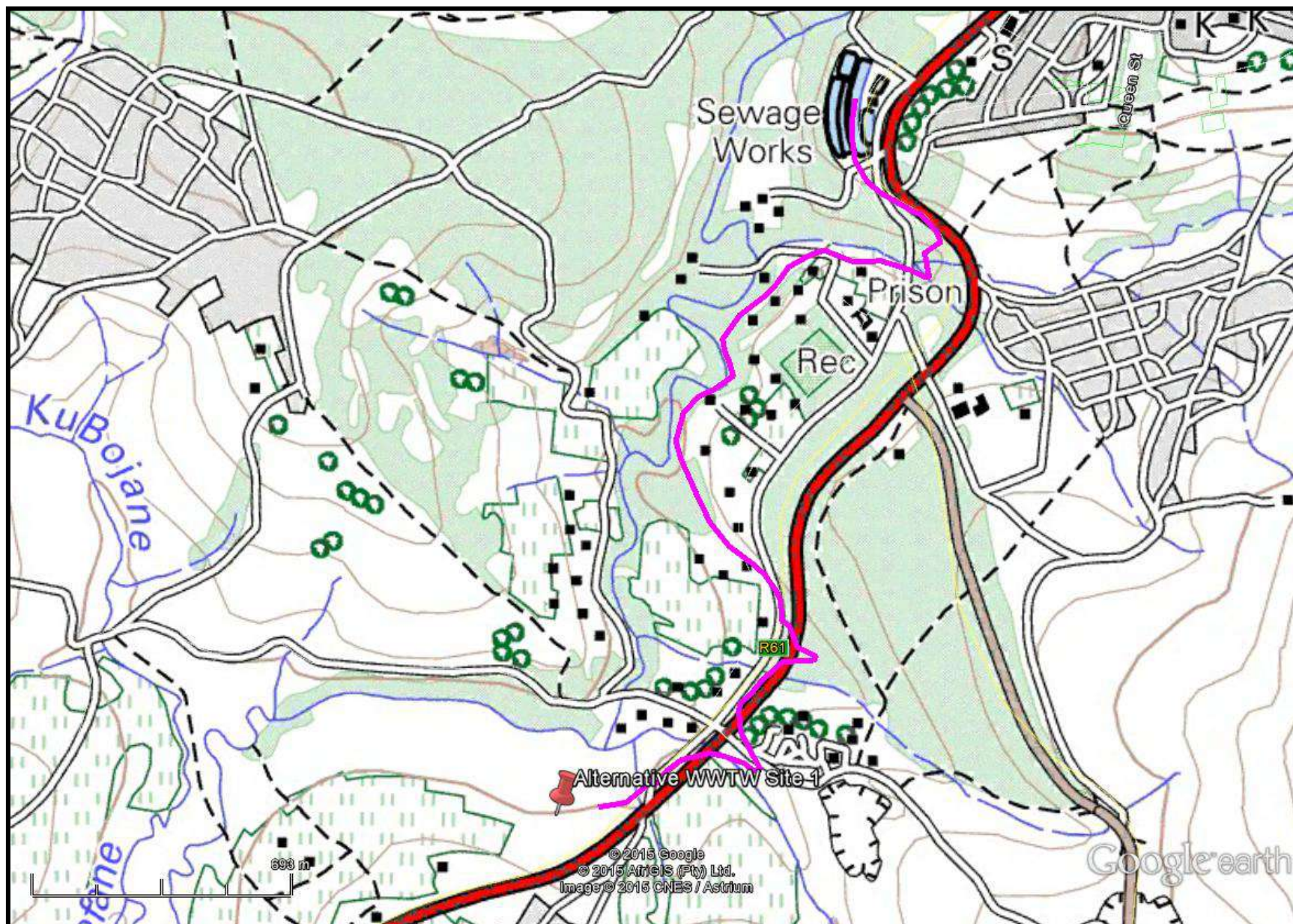


FIG. 2: AERIAL OVERVIEW OF THE NGCOBO WWTW



FIG. 3: TOPOGRAPHICAL MAP OF THE NGCOBO WWTW



NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. These resources are defined as follows:

1. “For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
 - 2.1. Places, buildings, structures and equipment of cultural significance;
 - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
 - 2.3. Historical settlements and townscapes;
 - 2.4. Landscapes and natural features of cultural significance;
 - 2.5. Geological sites of scientific or cultural importance;
 - 2.6. Archaeological and palaeontological sites;
 - 2.7. Graves and burial grounds, including—
 - 2.7.1. Ancestral graves;
 - 2.7.2. Royal graves and graves of traditional leaders;
 - 2.7.3. Graves of victims of conflict;
 - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
 - 2.7.5. Historical graves and cemeteries; and
 - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;
 - 3.1. Movable objects, including—

4. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - 4.1. Objects to which oral traditions are attached or which are associated with living heritage;
 - 4.2. Ethnographic art and objects;
 - 4.3. Military objects;
 - 4.4. objects of decorative or fine art;
 - 4.5. Objects of scientific or technological interest; and
 - 4.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
 - 5.1. Its importance in the community, or pattern of South Africa's history;
 - 5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
 - 5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
 - 5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
 - 5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
 - 5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
 - 5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
 - 5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

5.9. sites of significance relating to the history of slavery in South Africa”

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 database 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 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.

TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES

SITE SIGNIFICANCE	FIELD RATING	GRADE	RECOMMENDED MITIGATION
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	
High / Medium Significance	Generally Protected A		Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B		Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C		On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

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 national monuments, battlefields, or historical cemeteries are known to occur along the route. Other HIA surveys have been undertaken in the general area of Engcobo (fig. 4) but none in this specific area.

The 1964 1:50 000 map indicates that there are three potential historical houses or settlements near the proposed line (fig. 5). Their locations are given in Table 2.

TABLE 2: LOCATION OF HERITAGE SITES IN 1964

NAME	LATITUDE	LONGITUDE	DESC
engc02	-31.694377323	27.981661007	settlement
engc01	-31.691248789	27.984263144	building
engco03	-31.687999532	27.982419798	ruins

FIG. 4: KNOWN HERITAGE SITES IN THE GENERAL AREA

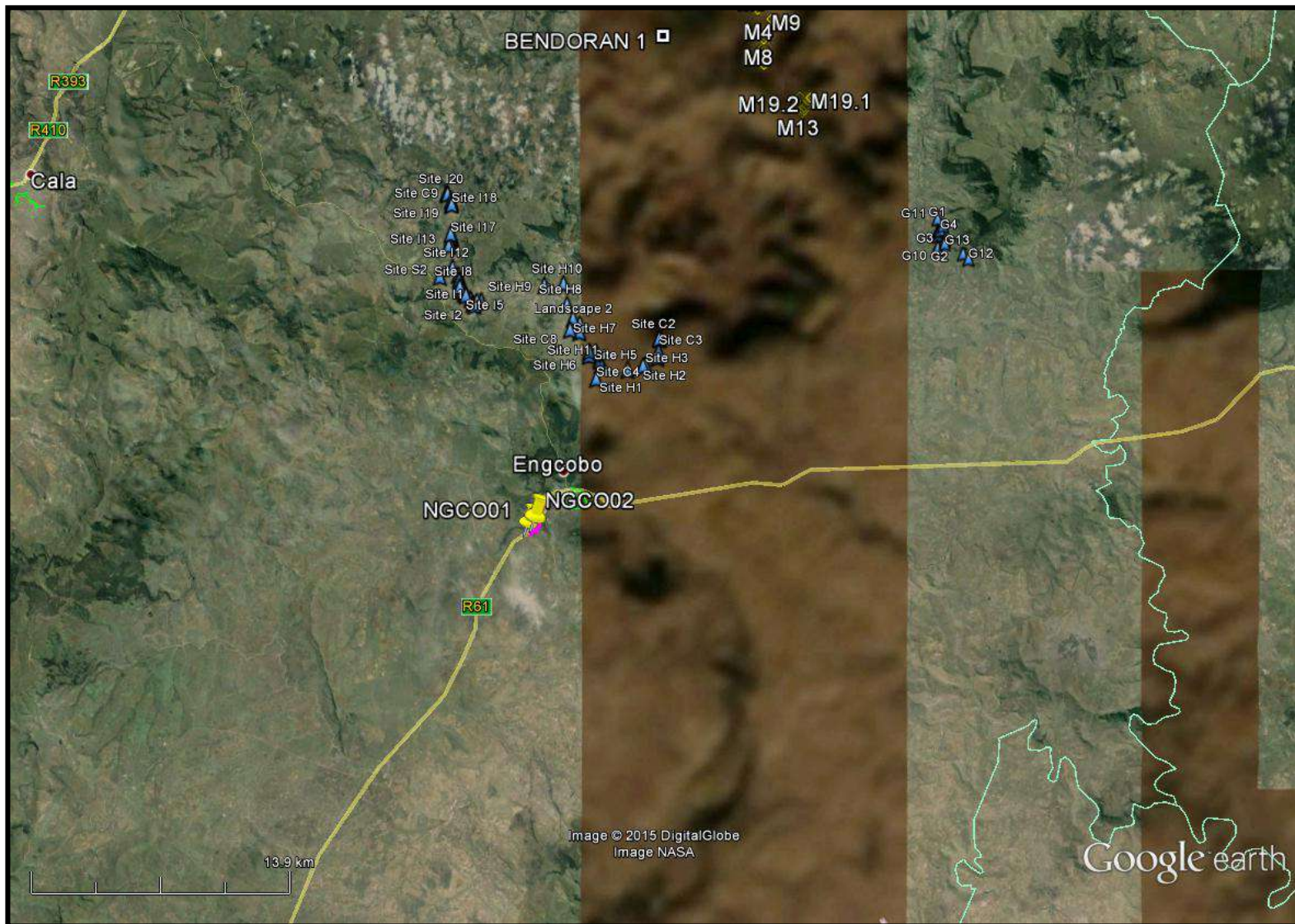
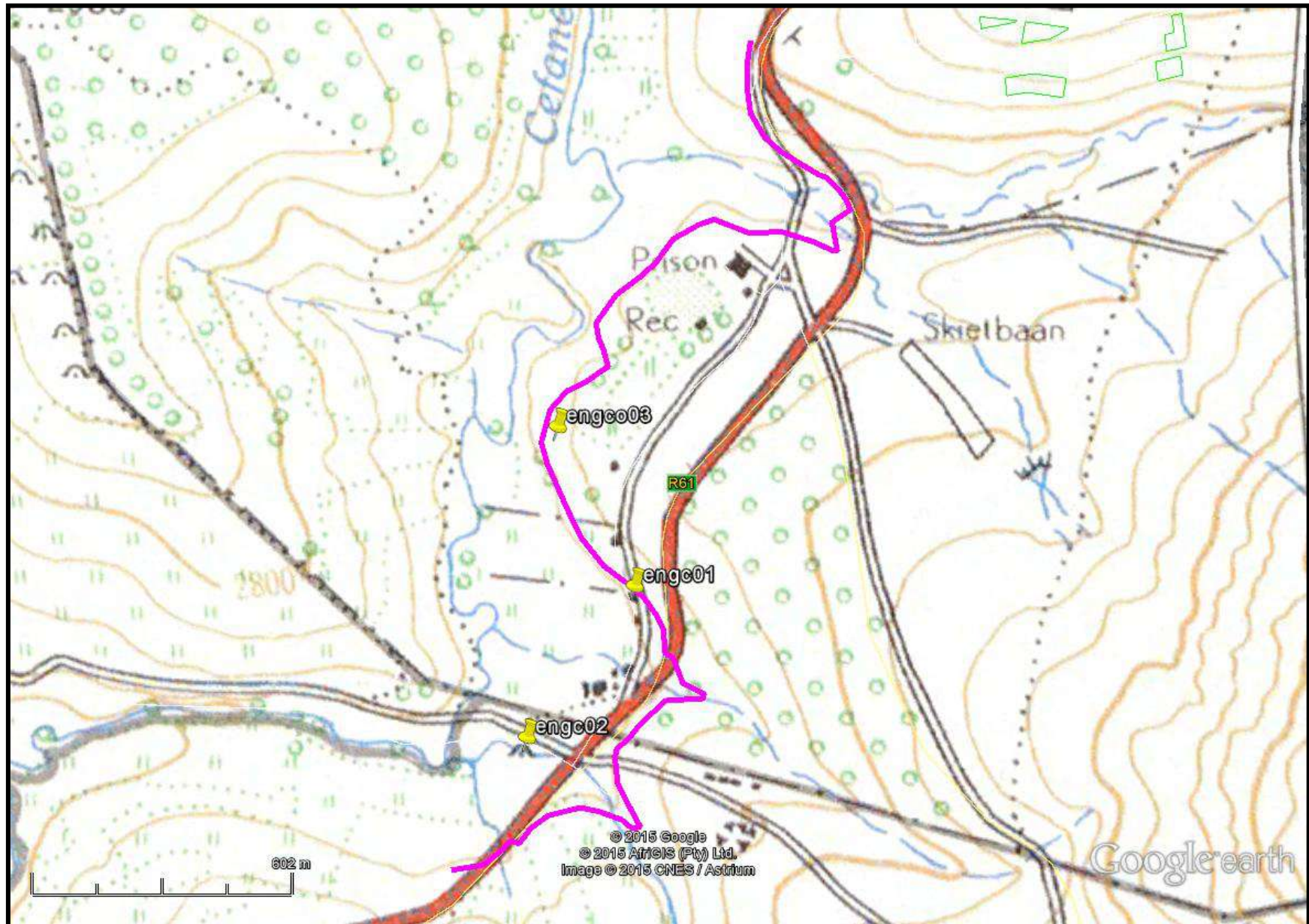


FIG. 5: 1964 MAP OF THE AREA



FIELD SURVEY

Much of the pipeline route occurs near the road, or in areas that have been disturbed by other servitudes and/or developments (fig. 6). The area for the new WWTW is located on a hill that has been repeatedly ploughed over several decades. There is thus little likelihood for intact historical and archaeological features to occur

FIG. 6: SCENIC VIEWS ALONG THE PIPELINE



Those sites noted on the 1964 historical map, near the pipeline, no longer exist. Two recent heritage sites were noted. Figure 7 and Table 3 indicates the locations of the sites.

TABLE 3: LOCATION OF RECORDED HERITAGE SITES

name	latitude	longitude	description
NGC01	-31.698009823	27.977368033	Cemetery
NGC02	-31.696113143	27.980960660	Possible grave(s)

NGC01

NGC01 occurs in the area of the proposed new WWTW. The area is a gentle slope down to the river. NGC01 is a recent cemetery that appears on Google Earth maps after 2003 (fig. 8). The cemetery will probably occur outside of 100m of the proposed WWTW.

Significance: The cemetery is of high significance.

Mitigation: The living descendents should be approached regarding their views of a WWTW in close proximity to the cemetery. There should be at least a 20m buffer between the cemetery and the development. However since cemeteries are of high significance, the WWTW should be moved as far as possible from the cemetery.

SAHRA Rating: 3A

NGC02

NGC02 occurs ~20m west of the R61 where the pipeline crosses over to the WWTW. The area consists of a few mounds that have the appearance of being graves (fig. 9). To the west of the main mound is a small brick wall that could be a headstone.

Significance: If these are graves then the site is of high significance.

Mitigation: To avoid delays to confirm if these are graves the pipeline R61 crossing should occur ~70m to the southwest. There needs to be at least a 20m buffer between the edge of the possible grave(s) and the pipeline footprint.

SAHRA Rating: 3A (if these are graves)

FIG. 7: LOCATION OF HERITAGE SITES



FIG. 8: CEMETERY AT NGC01



FIG. 9: POSSIBLE GRAVE(S) AT NGC02



CONCLUSION

A heritage survey was undertaken for the proposed Ngcobo WWTW upgrade and pipeline. No heritage sites were noted along the pipeline footprint. However, the location of the proposed WWTW may occur near an existing cemetery. The final WWTW footprint has not been finalised and thus its direct impact cannot be ascertained. The living descendents should be consulted regarding the proximity of the WWTW to the cemetery.

One other area may contain graves. This area occurs near the R61 cross over. I suggested that the pipeline is moved further southwest so that the footprint does not affect this area.

No further mitigation is required.