

**MAPHEPHETHWENI PIPELINE PROJECT NEAR
INANDA DAM, ETHEKWINI MUNICIPALITY
KWAZULU-NATAL**

Phase 1 Heritage Impact Assessment

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EXECUTIVE SUMMARY

Ethekeeni Water and Sanitation (EWS) proposes the installation of an approximately 3.5km, 200mm diameter pipeline from Maphephethweni Water Treatment Works to Maphephethweni Pump Station. Much of the project takes place close to the Inanda Dam. The area where the pipeline is to be constructed is on the western side of the Inanda Dam within the eThekeeni Municipality boundaries. In parts, the proposed pipeline is situated in very close proximity to Inanda Dam especially along Mshazi Road. The Inanda Dam was constructed in 1989 to supply water to parts of Durban.

The proposed development triggers Section 38 (1) (a) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999) as the length of the proposed pipeline is approximately 3.5km in length. The relevant section of the NHRA states that:

“(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- (a) the construction of a road, wall, power line, **pipeline**, canal or other similar form of linear development or barrier **exceeding 300m in length**

must notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

The proposed pipeline route passes through highly disturbed areas where there are major access routes and residential areas as well as through undisturbed areas especially where the pipeline traverses steep hills.

Two areas where graves are reportedly located were pointed out by local residents to the specialist. The approximate locations of both grave sites are indicated on Figure 2 in the main body of this report. The graves should be avoided by the proposed pipeline as graves are well protected by South Africa’s heritage legislation in terms of section 35 of the KwaZulu-Natal Heritage Act and section 36 of the National Heritage Resources Act. The re-alignment of the pipeline in affected sections, must be considered to avoid damaging or destroying graves as graves have high significance for many people and there are many traditional, cultural and personal sensitivities concerning the damage, destruction or removal of graves.

Although there was consultation with a number of residents who pointed out grave sites to the specialist, there is a chance that not all graves and heritage sites were identified during the site inspection. It is recommended that the project proceed with the proviso that consultation with communities living close to the pipeline takes place to avoid impacts on any additional sites of

heritage importance; that identified grave sites are avoided and protected by a buffer of 3m and that the mitigation measures provided in section 10 of the report are implemented. The Applicant is cautioned against damaging or destroying or removing graves without the necessary written permission from Amafa aKwaZulu-Natali, the heritage authority in the province.

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AUTHOR DETAILS

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1. INTRODUCTION

Ethekwini Water and Sanitation (EWS) proposes the installation of an approximately 3.5km, 200mm diameter pipeline from Maphephethweni Water Treatment Works to Maphephethweni 1 Pump Station. Much of the project takes place close to the Inanda Dam.

This report serves as the Phase 1 Heritage Impact Assessment (HIA) for this proposed pipeline project.

2. LEGISLATIVE BACKGROUND

The proposed development triggers Section 38 (1) (a) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999) as the length of the proposed pipeline is approximately 3.5km in length. The relevant section of the NHRA states that:

“(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

*(a) the construction of a road, wall, power line, **pipeline**, canal or other similar form of linear development or barrier **exceeding 300m in length***

must notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

In addition, the project may impact on graves, structures, archaeological and palaeontological resources that are protected in terms of sections 33, 34, 35, and 36 of the KwaZulu-Natal Heritage Act (No. 4 of 2008) as well as sections 34, 35, and 36 of the NHRA.

In terms of Section 3 of the NHRA, heritage resources are described as follows:

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;

- (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
- (v) historical graves and cemeteries; and
- (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including:
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

The Phase I HIA was undertaken to assess whether any heritage resources will be impacted by the proposed water pipeline.

3. LOCATION

The area where the pipeline is to be constructed is on the western side of the Inanda Dam within the eThekweni Municipality boundaries (see Figures 1 and 2 below). In parts, the proposed pipeline is situated in very close proximity to Inanda Dam especially along Mshazi Road.

4. TERMS OF REFERENCE

Undertake a Phase 1 Heritage Impact Assessment in order to determine the possible existence of archaeological, palaeontological and cultural-historical sites or features in the project area that could be impacted by the proposed activity.

Provide mitigation measures to limit or avoid the impact of the construction of the project on heritage resources (if any).

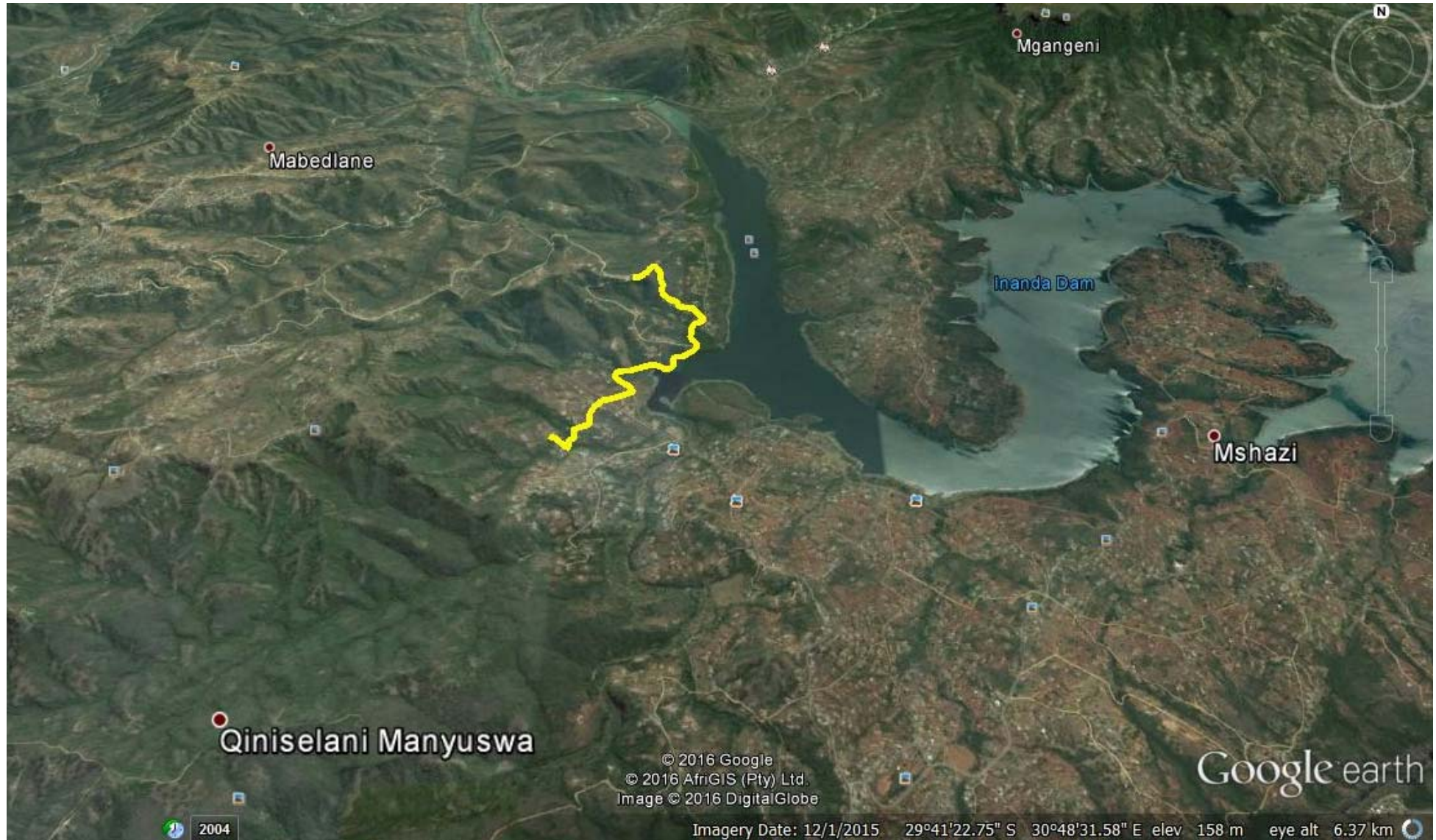


Figure 1: Map of the surrounding area in which the pipeline (indicated in yellow) is located



Figure 2: Closer view of pipeline route

5. METHODOLOGY

A survey of literature was undertaken of the larger area in order to place the project in a historical context. No other HIAs undertaken in the study area were found on the SAHRIS database. A site inspection of the project area was undertaken on 16 February 2016.

This HIA report must be submitted to the heritage authority of KwaZulu-Natal, namely Amafa aKwaZulu-Natali (Amafa) for their assessment and approval.

6. HISTORICAL BACKGROUND OF THE STUDY AREA

Archaeological

Although there is evidence to suggest Phoenician navigators put in at present-day Durban as long ago as 700 BC, the first reliable written record of Durban dates back to 1497 when Vasco de Gama sighted land on Christmas day and named it Terra de Natalia (Derwent, 2006: 27).

Around 1 700 years ago a wave of Early Iron Age People settled along the inland foot of the sand dunes on sandy but humus rich soils which would have ensured good crops for the first year or two after they had been cleared. These early people produced a characteristic pottery style known as Matola. The Matola people exploited the wild plant and animal resources of the forest and adjacent sea-shore. The communities seems to have been small groups that moved into a landscape that was sparsely inhabited by Later Stone Age San people (Prins 2014:2).

Inanda is the biggest settlement closest to the project area. According to Harber and Associates (2010:3), there is evidence of crude hand axes from the Stone Age occupants in Inanda. The later Stone Age (25 000 years ago) introduced the more refined stone tools, shell necklaces, bored stones, grindstones and the bow and arrow used by the oriinal Khoi San residents. One of many sites in the valley now inundated to form the Inanda Dam, was named Kwagandaganda because tractors were utilized to speed up archaeological excavations during construction of the dam. The small Early Iron Age agricultural settlement with byres, evidence of built platforms, granaries, a forging area and a men's assembly area dating back to the sixth century prove that the Inanda area has been occupied by Bantu people for at least 1 500 years. Clay vessels, grindstones, clay cattle and figurines and even remnants of dung reinforce this evidence.

In the Natal Museum Journal of Humanities Vol. 6, 1994 (Harber and Associates:3), archaeologist Gavin Whitelaw, writing about excavations at Kwagandaganda, states: “this pattern is archaeological evidence for a patrilineal society in which the structural relationship between men, women and cattle was similar to that found among Bantu speakers in South Africa today. It indicates essential similarities between the worldviews of first and second millennium agriculturists in Natal. The successive use of recent ethnography from South Africa to explain a number of features on the site provides further support for this point of view”. Personal items like glass and copper beads, ivory bracelets and a Ninth century Islamic vessel prove that these early residents were not isolated pioneers but part of a widespread network.

Historical

During historic times in the 1830's, the Qadi clan lived under King Shaka in the Thukela valley. However they moved to Inanda during the reign of King Dingaan because the king was apparently suspicious of their loyalty (Harber and Associates: 4).

In Inanda, under Mqhawe, they later granted land to the Christians of the American Board so that schools would be built, access to farming equipment could be made available, and to assistance when dealing with the colonial authorities could be offered. A close relationship remained with James Dube, the uncle of the chief becoming a devout Christian and one of the first black pastors. His son John Dube was born on the Inanda Mission (Harber and Associates: 4).

These were the beginnings of the so-called Amakholwe ('Believers'), Christian Africans who initially came together around mission stations to practice their new beliefs which isolated them from their former social groupings. They were generally better educated and exposed to external ideas and opportunities which in the case of John Dube subsequently made an enormous social impact on Inanda. John Dube travelled to the USA to continue his education for the priesthood where he met the influential Booker T. Washington and returned to Inanda to establish the Ohlange Institute. He also founded the first Black newspaper in South Africa, and later was elected the first President of the ANC in 1912 (Harber and Associates 2010:4).

Etherington (1989:282) explains that the first Black Christian converts in the Colony of Natal were referred to as kholwa or Amakhlowa who were economically successful and that this success owed in part to the educational facilities of the mission schools (Etherington 1989:289). The kholwa were pioneers in many branches of commercial agriculture, experimenting in the 1850s with cotton, coffee, arrowroot and sesame, and, in the 1860s, with sugar. The American mission at Mvoti led the way by establishing a plantation and crushing mill. The success of the education venture encouraged similar enterprises including the Inanda Seminary (Etherington 1989:289).

The Inanda Dam, on which the project borders, was constructed in 1989 and supplies water to parts of Durban via Reservoir Hills.

7. RESULTS OF SITE INSPECTION

The proposed pipeline route passes through highly disturbed areas where there are major access routes and residential development as well as through undisturbed areas especially where the pipeline traverses steep hills.

A number of local residents were consulted regarding the presence of heritage resources along the proposed pipeline route. Mrs. Ngcobo, who was clearing the verge of the road, showed the specialist the site of two graves situated some 30m east off Mshazi road. It appears that the route of the pipeline is situated along this section of the road. The approximate site of the graves is: S29°40'53.47" and E30°48'24.74" (see Figure 2 for an approximate location of these graves). The graves are indicated by two mounds of soil and are unmarked. See Figure 3 below.



Figure 3: Two unmarked graves

Mr. D.H. Bhengu (brother to Nkosi Bhengu) showed the specialist an area where there are at least 10 graves. The 'graveyard' is thickly overgrown with vegetation. Mr Bhengu explained that some of the graves were older than him hence it is likely that there are graves that are older than 60 years in this informal graveyard which are therefore protected by section 36 (3)(b) of the National Heritage Resources Act as well as section 35 of the KwaZulu-Natal Heritage Act. The graves should not be impacted by the proposed pipeline as it appears that it will be situated on the other side of a gravel road that passes the graves. Mr Bhengu was unsure as to who was buried at this site.

This informal graveyard is situated at coordinates: S29°40'46.18" and E30°48'26.09". See Figure 2 indicating the approximate location of this informal graveyard.



Figure 4: Area where ± 10 graves are reportedly located



Figure 5: Dense vegetation where graves are located

The above-mentioned graves are situated along the pipeline route where the pipeline leaves Mshazi road to head up a steep incline before turning to the Maphephethweni water and treatment works (WTW) and reservoir. There is an existing pipeline in this area. It is recommended that the proposed pipeline be located alongside the existing pipeline as the area is already disturbed. See Figure 6 below showing pipeline route.

A section of this route was walked but no heritage sites were found. The area is steep hence it is unlikely that there heritage sites will be found. Graves are traditionally situated close to dwellings and the route is steep hence there are very few residences in the steeper reaches of this section of the pipeline route. Mr Bhengu mentioned that there was an old dwelling off the pipeline route where graves could be found. The dwelling was located but no graves were found near it as the area is overgrown with vegetation. In addition, the dwelling is situated approximately 25m away from the pipeline route hence if there are graves, they should not be impacted by the construction of the pipeline.



Figure 6: Pipeline route towards water treatment works

The pipeline route from the Maphephethweni WTW to where it turns to go to Mshazi Road was inspected and no heritage sites were discovered during the inspection. The area is disturbed by existing pipelines and other water infrastructure and is heavily overgrown with vegetation. The specialist was accompanied by Mr. E. Mbonambi who works for Umgeni Water at the WTW. He stated that, to his knowledge, there are no grave or other heritage sites along the proposed route of the pipeline.



Figure 7: Existing pipeline and area of proposed pipeline

The pipeline route along Mshazi Road was found to be disturbed by the construction and maintenance of the road and no heritage sites were identified along this route. The route then turns sharply in a south-westerly direction to end at the Maphephethweni water pump station. This route follows an existing gravel road along which several dwellings can be found. Residents walking along the road stated that they were unaware of any graves situated close to the road. Many of the residences are situated very close to the road hence there is a concern that unknown heritage sites such as graves could be found close to the proposed pipeline route. See Figure 8 and 9 below.



Figure 8: Residences situated close to gravel road and pipeline route



Figure 9: Residences situated close to road

Palaeontological

The South African Heritage Resources Agency’s (SAHRA) Fossil Sensitivity Map indicates that the project area is largely situated in an area of insignificant or zero palaeontological / fossil sensitivity (see map below) with a slight overlap into a zone of low sensitivity (indicated in blue). No further studies are therefore required. However, a protocol for fossil finds is included in the mitigation measures as provided in Section 10 of this report.

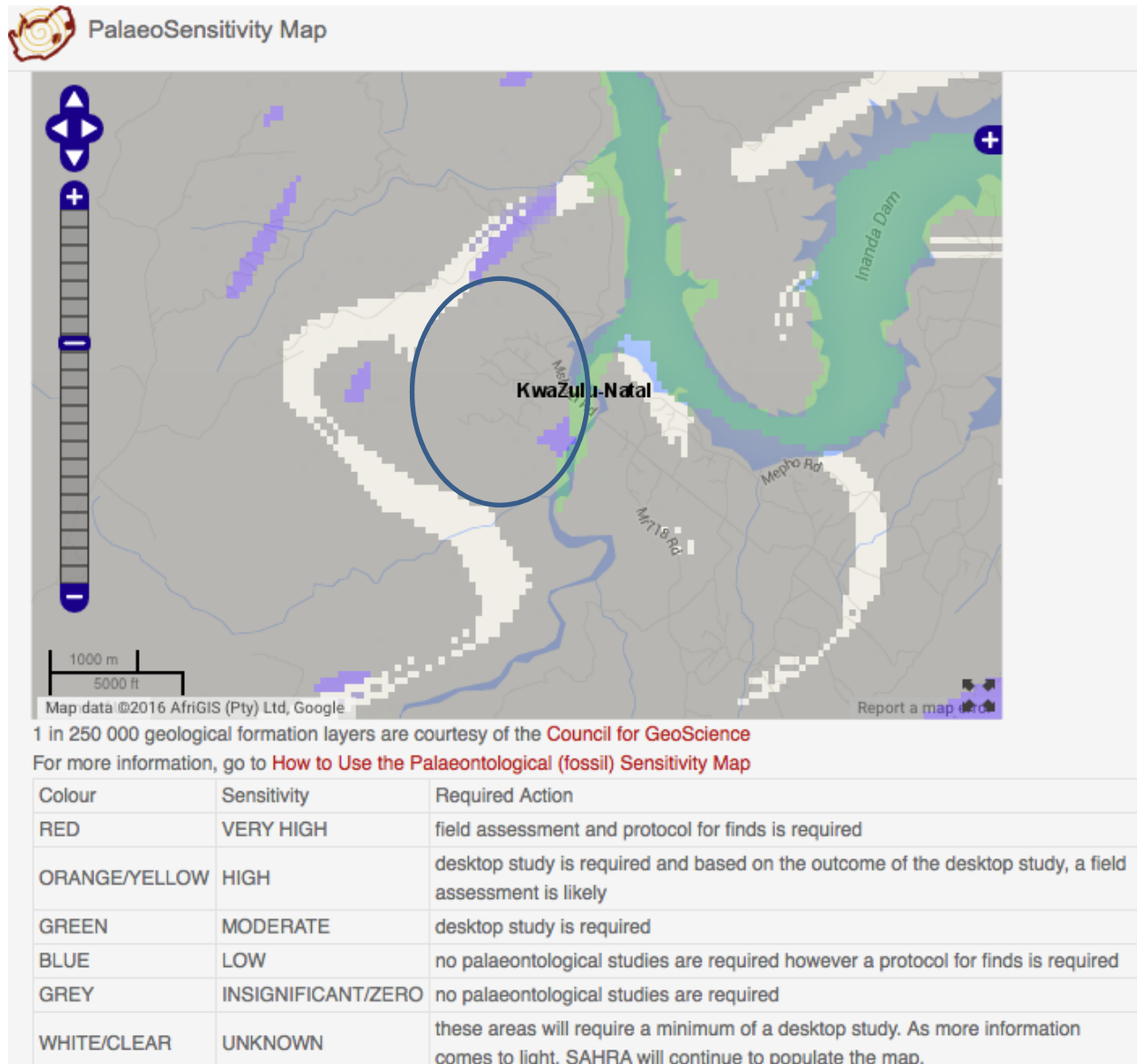


Figure 10: Fossil sensitivity of project area

8. DISCUSSION AND RECOMMENDATIONS

Several grave sites were identified during the site inspection. These sites should be avoided by the proposed pipeline. Graves are well protected by South Africa's heritage legislation. According to section 35 of the KwaZulu-Natal Heritage Act, which refers to general protection of traditional graves, the following is stated:

(1) No grave –

(a) not otherwise protected by this Act; and

(b) 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 Amafa Council having been obtained on written application to the Council.

(2) 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.

In terms of section 36 (1) of the NHRA, where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section. In terms of subsection (3) (b) of section 36, no person may, without a permit issued by SAHRA or a provincial heritage resources authority (Amafa) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. There is a possibility that some of these graves are older than 60 years and therefore are protected by section 36 of the NHRA; however, all of the graves are protected by section 35 of the KZNHA as described above.

Section 3 of the KwaZulu-Natal Heritage Regulations of 2012, which refers to the damage, alteration, exhumation, or removal of graves, provides details regarding the process to be followed if graves are to be removed. It is a long and fairly complex process therefore it is recommended that the proposed pipeline does not impact on grave sites identified in this report or any others. Efforts must be made, including the re-alignment of the pipeline in affected sections, to avoid damaging or destroying graves as graves have high significance for many people and there are many traditional, cultural and personal sensitivities concerning the damage, destruction or

removal of graves. It is recommended that the graves should be fenced off and left *in situ*. A buffer of 3m is recommended around the grave/s to avoid damage to them during construction.

During the construction of the pipeline, especially along the gravel road towards the Maphephethweni water pump station, consultation with residents residing alongside the road and pipeline route should take place to ensure that no heritage sites or areas of importance are impacted by the construction process.

It is therefore recommended that:

- Identified grave sites are avoided by the proposed pipeline;
- Identified grave sites are left in situ and fenced off with a 3m buffer around them to avoid any damage
- The proposed pipeline runs as close as possible to existing pipelines as these areas are already disturbed; and
- Consultation with residents residing close to the pipeline route takes place.

9. CONCLUSION

Although there was consultation with a number of residents who pointed out grave sites to the specialist, there is a chance that not all graves and heritage sites were identified during the site inspection. The project may proceed with the proviso that the above recommendations and mitigation measures provided below are implemented. The Applicant is cautioned against damaging or destroying or removing graves without the necessary written permission from Amafa.

10. MITIGATION MEASURES

- For any chance finds, such as grave sites, all work will cease in the area affected and the Contractor will immediately inform the Project Manager. A registered heritage specialist must be called to site for inspection. The relevant heritage resource agency (Amafa) must be informed about the finding.
- The heritage specialist will assess the significance of the resource and provide guidance on the way forward.
- Written permission must be obtained from Amafa if heritage resources, including graves, are to be removed, destroyed or altered.

- All heritage resources found in close proximity to the construction area to be protected by a 3m buffer in which no construction can take place. The buffer material (danger tape, fencing, etc.) must be highly visible to construction crews.
- Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- If there are chance finds of fossils during construction, work in the area of the find must be stopped and a palaeontologist must be called to the site in order to assess the fossils and rescue them if necessary (with an Amafa permit). The fossils must then be housed in a suitable, recognized institute.

11. REFERENCES

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