



## CONSTRUCTION OF A WATER SUPPLY PIPELINE, HAMMARSDALE, KWAZULU-NATAL

### Heritage Impact Assessment

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## EXECUTIVE SUMMARY

Nemai Consulting has been appointed by eThekweni Metropolitan Municipality to undertake the environmental authorisation process for the proposed construction of a water supply pipeline in Hammarsdale, KwaZulu-Natal.

The length of the water supply pipeline is approximately 8 km in length hence the development triggers Section 38 of the National Heritage Resources Act, 1999 (Act No 25 of 1999) that states the following:

*“(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.*

There are a number of pipeline route alternatives. Section A - Routes 1 and 2 are found where the pipeline comes off the Western Aqueduct; Section B – Routes 1 and 2 can found towards the middle of the pipeline route where a number of wetlands are found.

A site visit of the routes of the proposed pipeline was conducted on 01 December 2014. Much of the pipeline route runs through areas that are used for the growing of sugar cane, for power line servitudes and access roads. There are dwellings that fall outside the route of the pipeline however, the southern section of the route will be situated within the Keystone Park light industrial, warehousing and logistics precinct.

Environmental authorisation for the precinct project has been received and the heritage impact assessment for the project was undertaken in 2013 by eThembeni Cultural Heritage. No heritage sites of significance were recorded apart from one grave that will be exhumed and moved to the local municipal cemetery.

In terms of the alternatives, Section A: Route 2 runs along the boundary between two properties and crosses a watercourse whereas Route 1 is situated along an existing access road which is more disturbed.

Section B: Route 1 is straighter and shorter than Route 2 and Route 1 crosses a drainage line whilst Route 2 crosses two wetlands.

No visible heritage resources including archaeological material or sites were found during the site inspection. Although the area that the pipeline crosses is disturbed due to access roads and farming activities, there is a possibility that heritage resources will be encountered during the actual laying of the pipeline. Such resources include, amongst others, graves and sub-surface archaeological remains. A protocol is provided in the main body of this report if heritage resources are encountered.

In terms of the alternative routes, in Section A, Route 1 is preferred as it is situated along an existing access road that is more disturbed than Route 2 hence the possibility of finding heritage resources along Route 1 is considered to be less than along Route 2.

In terms of Section B, Route 1 is preferred from a heritage perspective as it is shorter than Route 2 hence reducing the area of risk where heritage resources could be impacted by the proposed pipeline.

A small section of the pipeline route in the north falls within an area that has a moderate fossil sensitivity. However, due to the area been currently farmed for sugar cane it is unlikely that intact fossils will be found and a desktop paleontological impact assessment is therefore not recommended.

The HIA will be submitted to Amafa aKwaZulu-Natali (Amafa) for their comment as per the requirements of the National Heritage Resources Act of 1999.

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**AUTHOR DETAILS**

<b>Verification</b>	<b>Name</b>	<b>Qualification</b>	<b>Professional Registration</b>
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## 1. INTRODUCTION

Nemai Consulting has been appointed by eThekweni Metropolitan Municipality to undertake the environmental authorisation process for the proposed construction of a water supply pipeline in Hammarsdale, KwaZulu-Natal.

The length of the water supply pipeline is approximately 8 km therefore the development triggers Section 38 of the National Heritage Resources Act, 1999 (Act No 25 of 1999) that states the following:

*“(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.*

The heritage impact assessment was undertaken to assess the route of the proposed pipeline in order to ascertain whether heritage resources will be impacted by the proposed development. If the assessment establishes that heritage resources will be impacted by the development, then this report will provide mitigation measures to either avoid or limit the impact/s.

According to Section 3 of the National Heritage Act 25 of 1999, heritage resources include the following:

- (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).

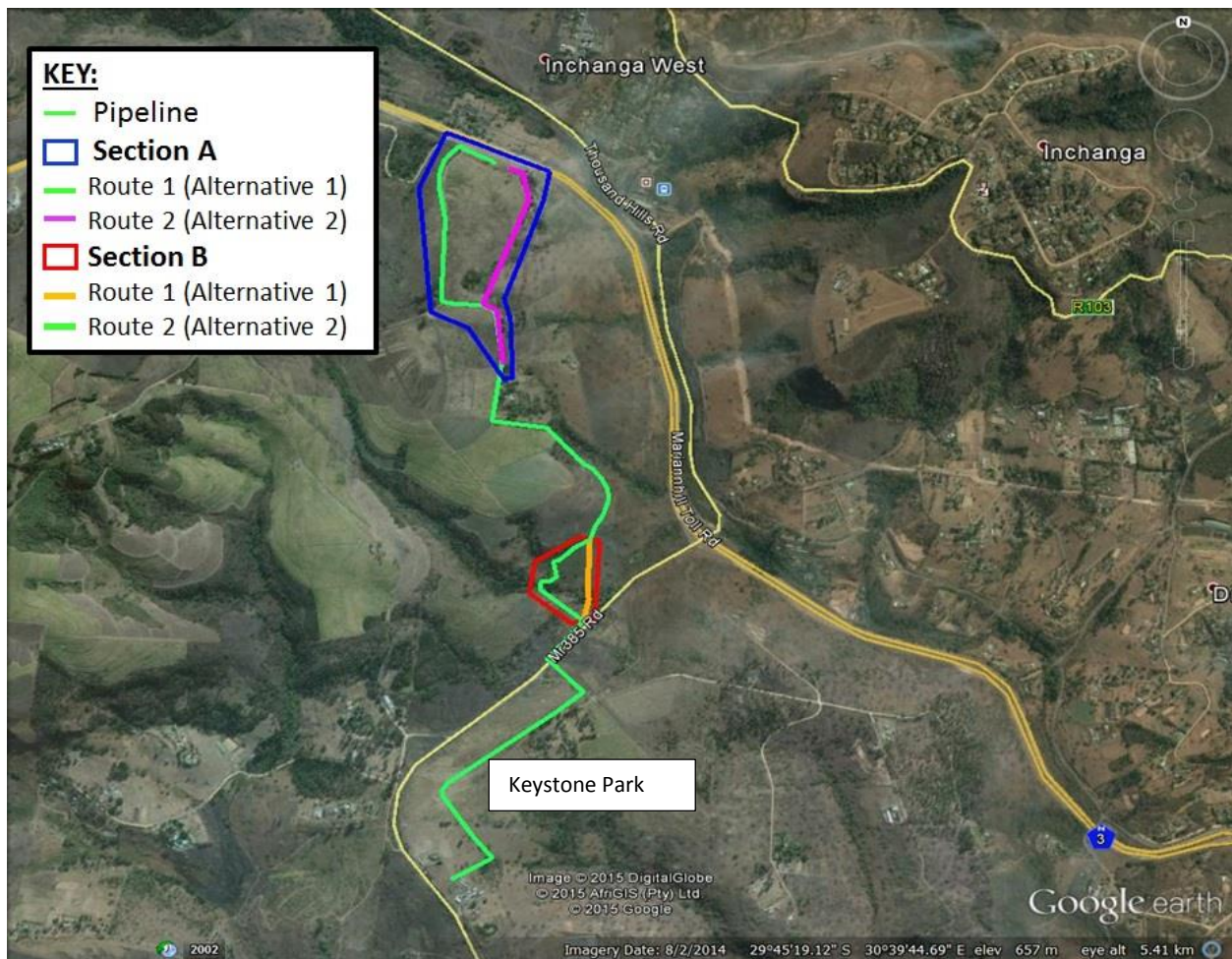
## 2. TERMS OF REFERENCE (ToR)

- Undertake a Heritage Impact Assessment in order to determine the possible existence of archaeological and historical sites or features in the project area that could be impacted by the proposed activity
- Provide mitigation measures if it is found that the proposed new pipelines will impact on heritage resources.

## 3. LOCATION AND DESCRIPTION OF THE STUDY AREA

The proposed pipeline is situated immediately south of the N3 highway linking Pietermaritzburg and Durban in Thetford Park, Hammarsdale which is situated in the outer west area of the eThekweni Municipality, KwaZulu-Natal. Hammarsdale is approximately 32 km north-west of the Durban city centre.

The Hammarsdale pipeline is proposed as it will provide a better supply of water to the Hammarsdale high level reservoir than the pipeline that is currently supplying the reservoir.



**Figure 1: Google Earth image of project area and pipeline**

A site visit of the proposed pipeline was conducted on 01 December 2014. Sections of the pipeline run through areas that are already disturbed by the growing of sugar cane and wattle, for power line servitudes and for access roads. There are also one or two dwellings that fall outside the route of the pipeline. The southern section or portion of the pipeline will be situated within the Keystone Park light industrial, warehousing and logistics precinct which is situated immediately south of the Mr385 road.

The heritage impact assessment for the Keystone Park development was undertaken in 2013 by eThembeni Cultural Heritage and environmental authorisation has been received for the development.



### 3.1 Alternatives

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There are two sections of the proposed pipeline where there are route alignments as depicted in Fig. 1 above.

Section A is situated where the proposed pipeline will T-off from the Western Aqueduct. The two alignments are approximately 1.2 km in length.

- Route 1 (depicted in green above) will be situated along an existing road servitude;
- Route 2 (depicted in pink) was requested by the landowner and will run roughly parallel to and east of Route 1 along the boundary line of two properties. The area through which it runs is less developed than Route 1 and the route also crosses a drainage line

Section B is situated immediately north of the Mr385 road.

- Route 1 (depicted in orange/yellow) crosses a drainage line and is straighter hence shorter than Route 2;
- Route 2 (green line in Fig. 1) follows property boundaries and crosses two wetlands.

## 4. METHODOLOGY

A survey of literature, including other Heritage/Archaeological Impact Assessment Reports completed in the area, was undertaken in order to place the development area in an archaeological and historical context. The sources consulted in this regard are indicated in the bibliography.

A site inspection was undertaken on 01 December 2014 where the proposed routes of the pipelines were inspected by foot. Visibility was good.

## 5. 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).

The Durban area is host to a much older heritage. Sibudu Cave, about 40 km to the northeast, contains an important Middle Stone Age sequence. The oldest occupation, the pre-Stillbay, is older than 70 000 years, while the Stillbay itself dates to 70 000 years ago. At this time, double pointed bifacial points were probably hafted and used as spearheads, while perforated seashells are some of the oldest jewellery in the world (South African History Online, 1 of 1).

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers crossed the Limpopo River and arrived in South Africa.

Later Iron Age sites were most probably inhabited by Nguni-speaking groups such as the amaBhele and others. The organisation of Nguni settlements follows the principles of the Central Cattle Pattern; a female residential zone, comprising an arc of grain bins and houses, surrounds a male zone of cattle enclosures, public court and smithing area. These components were arranged in three interconnected axis that contrast secular with sacred activities (front/back), senior with junior status (right/left) and blood relations versus marriage (centre/side). Evidently, the Nguni were the first people to integrate stonewalling in this pattern.

The earliest type of walling, known as Moor Park, dates from the 14th to 16th centuries and is located in defensive positions on hilltops in the midlands, from Bergville to Dundee (South African History Online, 1 of 1).

By 1820 the original African farmers were dispersed from this area due to the expansionistic policies of the Zulu Kingdom of King Shaka. African refugee groups and individuals were given permission to settle in the area by the British colonial authorities after 1845 where most of them became farm labourers.

## **Historical**

There is limited written information regarding the history of Hammarsdale. In a telephonic conversation with Sandi Edwards (nee Bartlett), she mentioned that her family settled in the area

in the 1970s and mainly grew sugar cane. However, prior to the Bartlett's, the area where the pipeline Tees-off from the Western Aqueduct, was farmed by the Blackhurst family. They farmed cattle and vegetables and were farming in the area from before the 1<sup>st</sup> World War (Pers. comm. 02/04/2015).

According to Edwards, the area where the Keystone Precinct is to be developed was owned by Eddie Hammond who ran a dairy and guest farm and after whom the local shooting range in the area was named.

The Hammarsdale industrial development area was targeted as a textile hub and consequently the sewage load to the Hammarsdale WWTW was dominated by dye-house and abattoir effluent (Fennemore, CE, Gallagher, D. & Naicker, D, undated: 1 of 10). The Department of Co-operation and Development created this industrial hub in the late 1970s to attract the textile industry in particular (Fennemore, et al: 3 of 10).

During the 1980's and 1990's, Hammarsdale was a notorious hot spot of political violence especially in the years leading up to the 1994 democratic elections. Houses, churches, halls and shops were burnt in feuding between different parties (Ulwazi, undated: 1).

## 6. RESULTS AND DISCUSSION

### **Archaeological**

No visible archaeological sites were discovered during the site assessment. Due to the undeveloped nature of sections of the pipeline, there is a possibility that once excavations start on the site, sub-surface archaeological remains or sites may be found. See Section 8 of this report regarding measures to be undertaken if such finds are made.



**Figure 2: Undisturbed section of pipeline route**



**Figure 3: Disturbed section of pipeline route**

## Historical

No heritage resources such as buildings or structures of significance were noted during the site inspection as well as no graves or other historical sites were observed.



Figure 4: Terrain along alignment of the pipeline



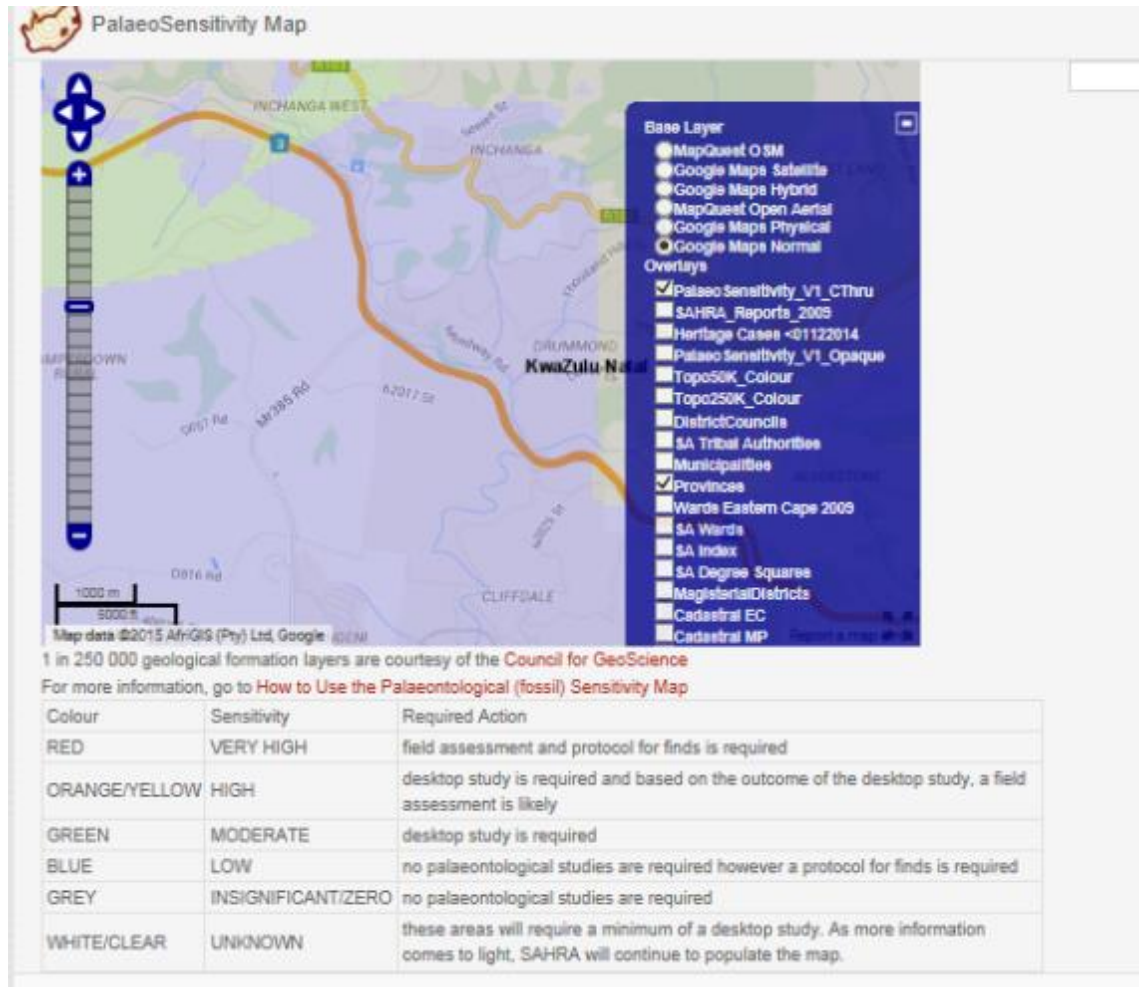
Figure 5: Cultivated area along pipeline route

During the HIA that was undertaken for the Keystone Park light industrial, warehousing and logistics precinct by eThembeni Cultural Heritage, a number of buildings and structures were identified. However, none of the buildings were assessed as having any architectural significance. The grave of Eric Gardiner (1889-1965) was found on the site and it was decided that the grave and remains would be removed from the site to the local municipal cemetery.

The proposed exhumation was advertised in the local newspaper in November 2013 but it is unclear if the grave has as yet been moved.

### **Palaeontological**

The South African Heritage Resources Agency's (SAHRA) Fossil Sensitivity Map indicates that the project area is situated in an area of mainly low palaeontological or fossil sensitivity with a small section of the pipeline near the Western Aqueduct T-off point crossing a moderate sensitivity fossil zone. Due to existing activities in the area including access roads and sugar cane farming, it is unlikely that intact fossils will be found and it is therefore recommended that a palaeontological desktop assessment does not need to be undertaken.



Map indicating fossil sensitivity of project area

## 7. RECOMMENDATIONS AND CONCLUSIONS

During the site visit, no visible cultural heritage and archaeological sites were found. However, it should be noted that archaeological sites that may have remained undisturbed could be found beneath the surface once excavations take place hence care must be taken when the site is excavated. Mitigation measures described below deal with such chance finds.

In terms of the alternative routes, Route 1 of Section A is preferred as it is situated along an existing access road that is more disturbed than Route 2 hence the possibility of finding heritage resources along Route 1 is considered to be less than along Route 2.

In terms of Section B, Route 1 is preferred as it is shorter than Route 2. The shorter the route the less risk to heritage resources than the longer route alternative.

This report must be submitted to Amafa aKwaZulu-Natali for comment and approval as required by the National Heritage Resources Act of 1999.

## 8. MITIGATION MEASURES

- For any chance finds, 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.
- Permits to be obtained from Amafa if heritage resources are to be removed, destroyed or altered.
- All heritage resources found in close proximity to the construction area to be protected by a 10m buffer in which no construction can take place. The buffer to 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.
- Should any remains be found on site that is potentially human remains, the South African Police Service should also be contacted.
- If there are chance finds of fossils during construction, 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



## 9. REFERENCES

Derwent, S. 2006. *KwaZulu-Natal Heritage Sites: A Guide to Some Great Places*. David Phillips: Cape Town

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<http://www.sahistory.org.za/durban/prehistory-durban-area> (sourced on 01/04/2015)

[http://www.ulwazi.org/index.php5?title=Hammarsdale\\_Tapestry](http://www.ulwazi.org/index.php5?title=Hammarsdale_Tapestry) (sourced on 01/04/2015)