

SIYATHUTHUKA ROAD UPGRADE, BELFAST - MPUMALANGA

PHASE 1 HERITAGE IMPACT ASSESSMENT

September 2012



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1 EXECUTIVE SUMMARY

Emakhazeni Local Municipality proposes to upgrade the existing Siyathuthuka Road. The upgrade will involve the widening and re-alignment of a portion of the road and the upgrade of two existing culverts. The upgrade will start at the point of the road marked as main entrance (see fig. 2) and will end at the traffic circle before entering the township.

The preferred alternative is to realign the portion for the road as indicated on the drawing. The re-aligned portion of the road will consist of two lanes, one in each direction as well as a paved shoulder. Each lane will be 3.5m wide and a paved shoulder / pavement of 1.5m on either side of the road. The remaining portions of the road will be resurfaced with asphalt.

The existing culvert structure at culvert 1 will be removed and replaced with a bigger culvert. The upgraded culvert will consist of 7 barrels, each of which is 2.275m high and 3.135m wide. The overall size of the culvert will be 24.5m wide, the overall length of the inside of the culvert will be 90m and the overall length of the outside of the culvert will be 116m. The culvert will be made up of barrels, pre-cast concrete culvert portions, re-enforced concrete culvert portions, gabion walls and gabion mattresses.

Culvert 2 will be upgraded to a total width of 37.8m and length of 21.75m. The culvert structure will consist of 7 barrels, each of which will be 3.5m high and 5m wide.

The surface survey was conducted and completed on 12 September 2012. This report was undertaken according to the National Heritage Resources Act 1999 (Act no 25 of 1999) (appendix A). No heritage resources were found within the proximity of the proposed pipeline construction. It is therefore recommended that based on the findings of the survey the construction may proceed.

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2 TERMINOLOGY

BP	Before Present
EIA	Early Iron Age
MIA	Middle Iron Age
LIA	Late Iron Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
SAHRA	South African National Resources Agency
NHRA	National Heritage Resources Act
SAPS	South African Police Services

3 INTRODUCTION

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Nemai Consulting was appointed by Emakhazeni Local Municipality to undertake an environmental assessment on the proposed Siyathuthuka road upgrade in Belfast, Mpumalanga. Part of the environmental assessment is a Heritage Impact Assessment (HIA) study which serves to identify cultural heritage resources which may be impacted by the proposed development. If any resources are found, mitigation measures and recommendations for the protection of such resources are to be given. The report will be submitted to the relevant heritage authority for comment as per the National Heritage Resources Act 25 of 1999 (Act no 25 of 1999).

4 TERMS OF REFERENCE (TOR)

Approach

- To undertake a Phase 1 Heritage Impact Assessment in accordance with the National Heritage Resources Act (Act no. 25 of 1999).
- To identify and map of all heritage resources in the area affected, as defined in Section 2 of the National Heritage Resources Act, 1999, including archaeological and palaeontological sites on or close (within 100 m) of the proposed development.
- To assess the significance of such resources in terms of the heritage assessment criteria as set out in the regulations.
- To assess the impact of development on such heritage resources.
- To evaluate the impacts of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.
- To identify heritage resources that will be adversely affected by the proposed development.
- To identify heritage resources to be monitored.
- To advice further mitigations during the construction; contact the relevant heritage authority for graves and archaeological finds.
- To comply with specific requirements and guidelines of the relevant Provincial Authority.

5 LOCATION AND DESCRIPTION OF THE STUDY AREA

The proposed road upgrade is located in Belfast, Mpumalanga Province (see fig. 1). The study area falls within the Emakhazeni Local Municipality of the Nkangala District Municipality. According to Rutherford and Westfall (1994) the study area is grassland biome. Moreover, the vegetation type is classified under Lydenburg Montane Grassland and Eastern Highland Grassland. During the site survey the area was dry due to the dry season which made it easier to identify archaeological materials. Figure 3-Figure 8 indicates the different view of the study area.

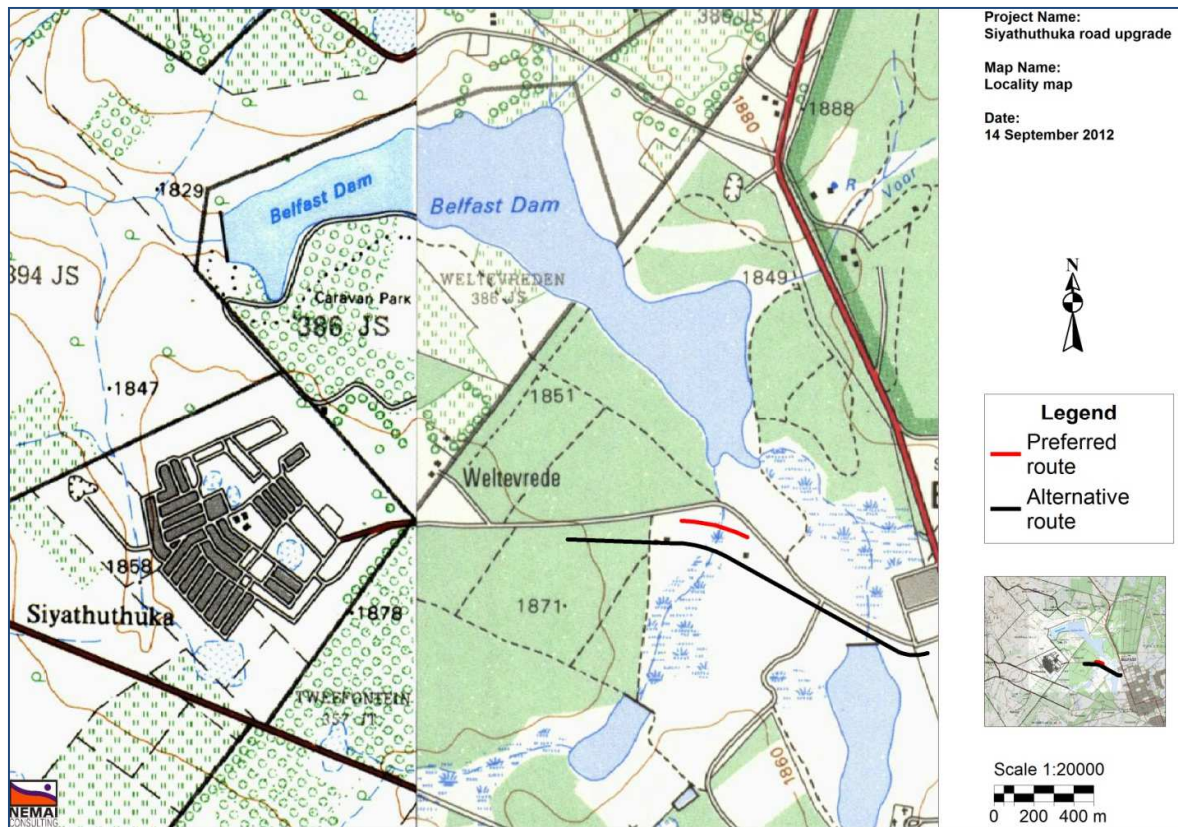


Figure 1 Locality map of the study area.

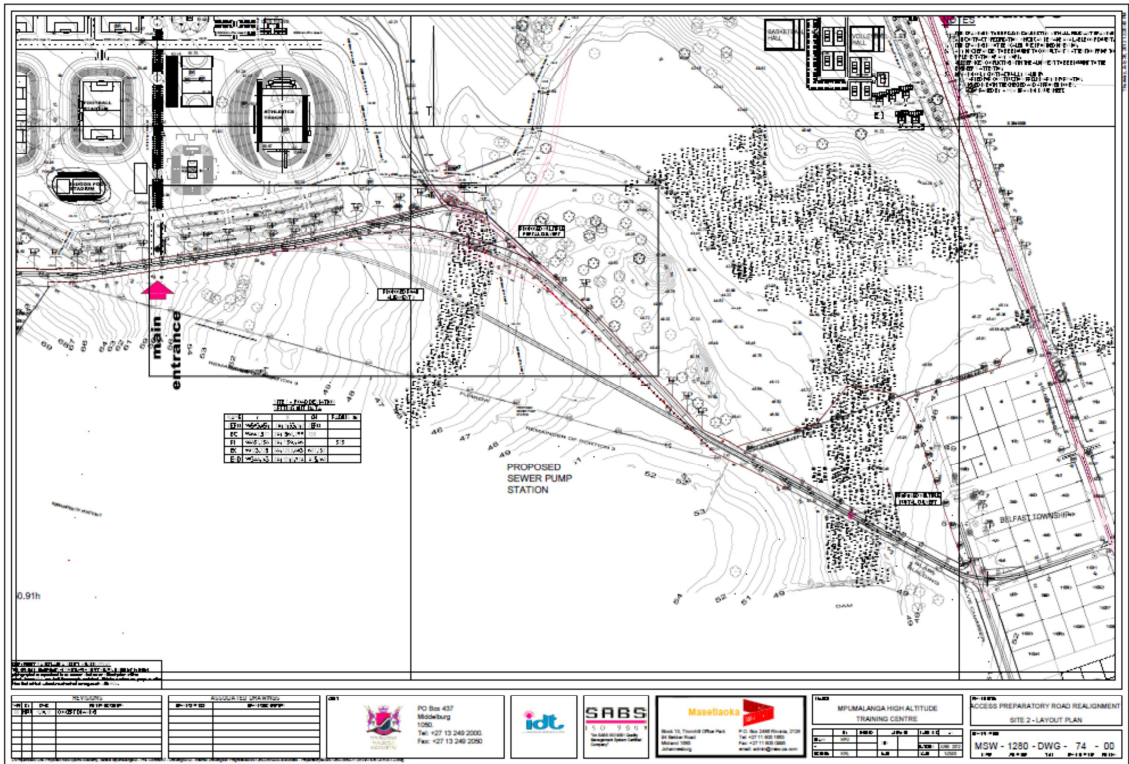


Figure 2 Layout of the preferred and alternative route.





Figure 3-8 overview of the study area.

6 BACKGROUND OF THE STUDY AREA

The cultural landscape qualities of the region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age and Iron Age) as well as a much later colonial (farmer and industrial) component. The second component, also dating to the colonial period, is an urban one.

6.1 Archaeological background

6.1.1 Stone Age

Very little habitation of the highveld area took place during Stone Age times. Tools dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Steelpoort River and Olifants River. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. Open sites were still preferred near watercourses.

No Later Stone Age (LSA) sites are known to occur in the larger region.

6.1.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom (Huffman 2007) south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Sites dating to this period were recently excavated in the Steelpoort River valley (Van Schalkwyk 2009). Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and the Mpumalanga highveld.

Archaeological sites identified in the region date to the Late Iron Age and it seems as if they can be divided into two distinct categories. The older of these are sites with quite high walls and are conventionally linked with the Koni-group of people that have been settled in the region since the 1600s. The second groups of sites also have stone walling but this is in most cases much less developed, in many cases making them difficult to detect. This latter group of sites probably date to a later period and can also be linked to settlement during early historic times of Ndebele- and Swazi-speakers in the region.

6.2 Historical background

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovered of coal and later gold. The establishment of the NZASM railway line in the 1880s, linking Pretoria with Lourenço Marques (Maputo) and the world at large, brought much infra-structural and administrative development to the area. This railway line also became the scene of many battles during the Anglo-Boer War, for example at Berg-en-Dal and Signal Hill more to the east.

The town of Belfast was established in 1890 and became a municipality in 1966. One of the oldest still operating coal mines in the area is Glisa Colliery which supplied coal to the old NZASM railway line.

6.2.1 Farmsteads

Not many farmsteads occur in the region as most of the original farms were very large, requiring few of these to be developed.

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

7 METHODOLOGY

A background research of the study area was conducted prior to the field survey. The purpose of the research was to acquire information as to what to expect in the study area. A field survey was conducted on 12 September 2012. This was to identify sensitive heritage resources that may be impacted due to the proposed project. National Heritage Resources Act 25 Of 1999 was utilised as a source of reference to identify what is known as a heritage resource. A foot survey was conducted to locate any heritage resource(s) within the proposed site. A Garmin (Global Positioning System) GPS was in place to record coordinates, and a digital camera for photographs.

8 FINDINGS

Archaeological

No archaeological materials were found in the study area.

Historical

No historically related sites/materials were found within the close proximity of the study area.

9 POTENTIAL FOR FURTHER FINDINGS

It is possible, based on the surface survey, that further unearthed graves and archaeological materials may be discovered during the development process.

If this does occur, construction in the area where the material is found should cease immediately and the finds should be reported to the relevant heritage authority and the services of a qualified heritage consultant should be obtained to assess the significance of the finds. The consultant should advise on suitable measures to be taken to address the finds that could include:

- a. further excavation and investigation by relevant specialist
- b. no further excavation and continuance of work
- c. avoidance of site and sanitisation of site from work area.

10 LEVEL OF SIGNIFICANCE

The level of significance of the site and the cultural resources found varies between social, historical, spiritual, scientific and aesthetic value.

Social value embraces the qualities for which a place has become a focus of spiritual, political, national, or other cultural sentiments to a majority or minority group. This may be because the site is accessible and well known, rather than particularly well preserved or scientifically important (SAHRA Regulations); for instance community halls and parks. The study area has no social value.

The proposed site has no evidence of significant or known historical events or related structures. There was also no physical evidence of religious activities such as well used areas where people worship; white-washed stones that designate areas of worship, etc. Scientific value refers to research purposes. There is no evidence that the site/study area was used for research or scientific purpose. Aesthetic value refers to the unique architectural structure; none was identified on site as all structures found were either demolished or partly demolished.

11 IMPACTS OF THE PROPOSED PROJECT

This section of the report is to identify the impact(s) that the development may have on the heritage resources found.

There were no heritage resources found, therefore, the proposed development has no impacts from a heritage perspective.

12 RECOMMENDATION

This report must be submitted to the relevant heritage authority for comment as per the National Heritage Resources Act 25 of 1999.

13 CONCLUSION

In conclusion, the development may proceed with certainty that no heritage resources were identified that may be impacted by the proposed development. However, if any heritage related resources may be found during the construction, mitigation measures must be taken.

14 REFERENCES

Huffman, T. N. (2007). Handbook to the Iron Age: the archaeology of pre-colonial farming societies in southern Africa. University of KwaZulu Natal Press: South Africa.

Rutherford, M.C. & Westfall, R.H. 1994. Biomes of southern Africa: an objective characterisation. *Mem. Bot. Surv. S. Afr.* No. 63.

Van Schalkwyk, J.A. 2009. *Report on the mitigation of heritage sites in the De Hoop Dam, Steelpoort River, Limpopo Province.* Unpublished report. Pretoria.

APPENDIX A – LIST OF LEGISLATION APPLICABLE TO THE SITE

15 EGISLATION

National Heritage Resources Act 25 of 1999

15.1 Section 3 of NHRA 25 of 1999

According to **Section 3** under **National Estate** of the National Heritage Act 25 of 1999 the heritage resources in South Africa includes the following:

“(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 –

- (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).
- (3) 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 –
- (a) its importance in the community, or pattern of South Africa’s history;

- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) 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
- (i) sites of significance relating to the history of slavery in South Africa".

15.2 Section 38 of HNRA 25 of 1999

According to **Section 38** under **Heritage resources management** of the National Heritage Act 25 of 1999 the heritage resources in South Africa should be managed in 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, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length;
- (c) any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)—

- (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
- (b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) an assessment of the impact of the development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide—

- (a) whether or not the development may proceed;
- (b) any limitations or conditions to be applied to the development;
- (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
- (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
- (e) whether the appointment of specialists is required as a condition of approval of the proposal.

(5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.

(6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who—

- (a) must consider the views of both parties; and
- (b) may at his or her discretion—
 - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and
 - (ii) consult SAHRA; and
- (c) must uphold, amend or overturn such decision.

(7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation

fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

(9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the *Provincial Gazette*, exempt from the requirements of this section any place specified in the notice.

(10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply.