



**Attention      Bernadet Pawandiwa**

Dear Ms Pawandiwa

**Application for Exemption from a Phase 1 Heritage Impact Assessment  
Proposed Nkoninga Pump Station and Sewer Line upgrade, Richards Bay  
Mhlathuze Municipality, KwaZulu-Natal**

**Project Area and Project description<sup>1</sup>**

The Nkoniga Pump Station is located at 28° 44' 31.39" S and 32° 3' 57.54" E. The upgrading of the sewer lines and the Nkoninga Pump station is required to increase the capacity to accommodate present increased flow to the pump station, as well as, anticipated short term future additional flows.

The existing Nkoninga Pump station is located within the established Veld en Vlei suburb of Richards Bay. The proposed sewer pipeline upgrade will occur along the existing service and road reserves within the established suburbs of Arboretum, Birdswood and Veld and Vlei. One portion of the line is located along the Eastern Central Arterial from the R619 to Essenwood Way (pink line) leading towards the Nkoninga Pump Station (See Figure 1). Towards the north of the pump station, several manholes along carefully selected trajectories will be raised.

The Pump Station will be upgraded from an existing capacity of 230 l/s to an increased capacity of 700 l/s. The flow of the sewer pipelines is expected to be upgraded from 200 l/s to a future value of 610 l/s. The footprint of the existing Nkoninga pump station will be increased from 520m<sup>2</sup> to approximately 820m<sup>3</sup> in extent. The pump station upgrade also allows for the installation of a 1 000 KI sub-surface concrete balancing tank for future use.

The existing pipeline, which currently has a diameter of 400 mm and is composed of asbestos cement, will be replaced with a new 600 mm uPVC Class 12 rising main. The length of the rising main will be approximately 1 700 m.

**Observations**

The project area lies within the established suburban and residential infrastructure of Richards Bay's suburbs.

---

<sup>1</sup> Information provided by Exigent Engineering Consultants

Historically, and prior to the establishment of residential suburbs, a typical coastal palm veld and swamp forest environment would have prevailed.<sup>2</sup> The topography is flat to undulating; the higher ground comprising the crescents of low, wind deflated Pleistocene dunes. The dune slacks comprise typical swamp forest along drainage lines that grade through marshland and hygrophilous grasslands to stands of *umdoni* (*Syzigium cordatum*) woodland and mesic coastal forest and grasslands on the higher ground. During Iron Age settlement of these environs homesteads would have been located on the higher lying ground away from seasonal inundation within the dune slacks and drainage lines.<sup>3</sup> Within the project area these *loci* have now been transformed by the establishment of residential clusters (Figure 1).

The existing pump station location and pipeline servitudes all lie within wetland offsets and, due to the inevitability of seasonal inundation, would have historically been eschewed for settlement. The possible presence of any primary context archaeological remains is thus considered to be low.

Due to the high potential of inundation within the project footprint and servitude no ancestral graves are anticipated.



**FIGURE 1** Layout Plan of the Study Area – Nkoninga Pump Station and Rising Mains – located within wetland off sets

<sup>2</sup> Mucina, L and Rutherford, MC. 2006. The vegetation of South Africa, Lesotho and Swaziland. South African National Biodiversity Institute, Pretoria

<sup>3</sup> Hall, M. 1981. Settlement patterns in the Iron Age of Zululand: an ecological interpretation. Cambridge monographs in African archaeology 5. BAR International Series 119. Oxford: BAR.



Whilst the entire coastal plane is considered palaeontologically sensitive<sup>4</sup>, the fossil bearing strata lie in excess of 30 m below the Pleistocene sand overburden. No impact on this lithology by the proposed upgrades is anticipated. Consequently no further palaeontology assessment or monitoring is recommended.

### **Recommendations**

Accordingly, we request that Amafa grant an exemption from an HIA for the proposed upgrades, allowing the project to proceed with no further heritage resource mitigation.

Standing protocols in terms of the NHRA will prevail in the instance of any archaeological material or human remains being exposed during construction activities. See Appendix 1

In this regard, please can you notify us timeously via the loaded SAHRIS case file as to the decision of Amafa.

Yours sincerely



Len van Schalkwyk  
Principle Investigator.

### **Project area photograph's**



**Soil Profile – Aeolian sand overburden grading to a humic sandy clay horizon indicating episodic waterlogged conditions**

---

<sup>4</sup> Groenewald. G. 2012. Palaeontological Technical Report for KwaZulu-Natal. Unpublished. Amafa aKwaZulu-Natali.





**Hygrophilous grassland clearing and Phragmites wetland**

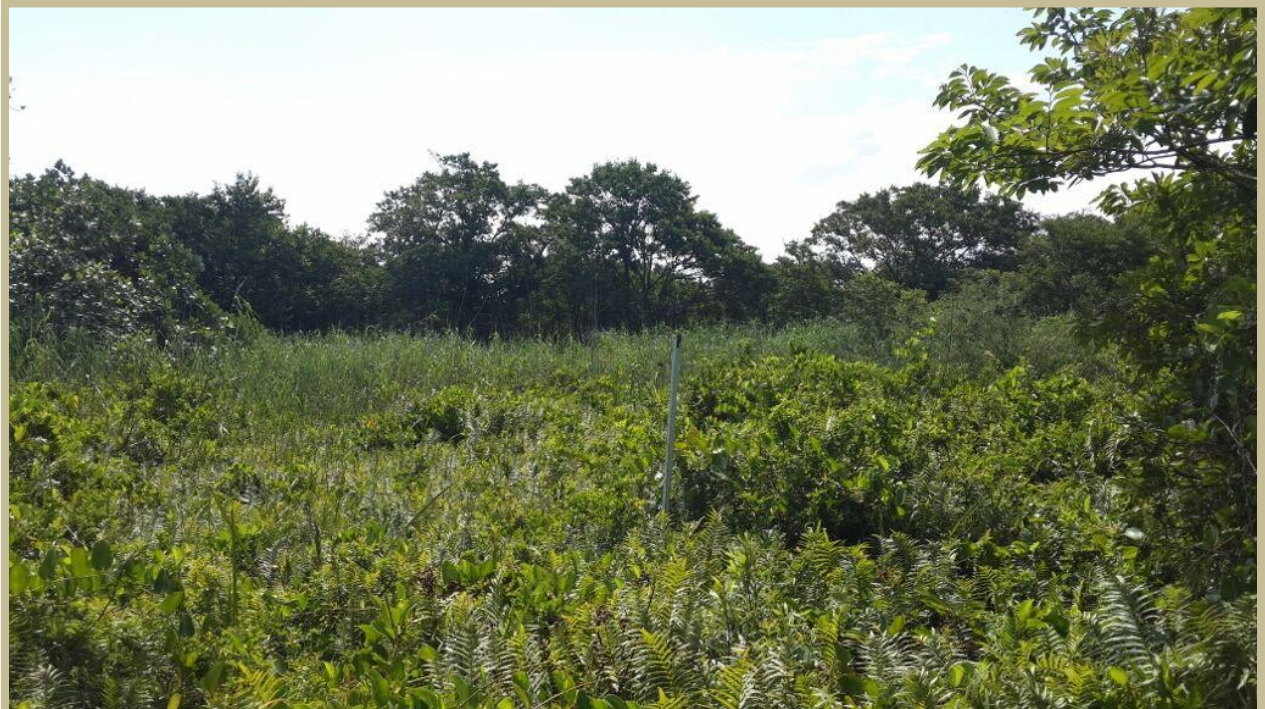


**Umdoni Woodland**





**Swamp Forest edge**







**Mesic Coastal Forest**



**Wetland**



## **Appendix 1**

### **Protocol for the identification, protection and recovery of heritage resources during construction and operation**

It is possible that sub-surface heritage resources will be encountered during the construction phase of this project. The Project Engineer, Environmental Control Officer and all other persons responsible for site management and excavation should be aware that indicators of sub-surface sites could include:

- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate);
- Concentrations of humanly modified stone and stone tools;
- Bone concentrations, either animal or human;
- Ceramic fragments, including potsherds;
- Stone concentrations that appear to be formally arranged (may indicate the presence of an underlying burial); and
- Fossilised remains of fauna and flora, including trees.

In the event that such indicator(s) of heritage resources are identified, the following actions should be taken immediately:

- All construction within a radius of at least 20m of the indicator should cease. This distance should be increased at the discretion of supervisory staff if heavy machinery or explosives could cause further disturbance to the suspected heritage resource.
- This area must be marked using clearly visible means, such as barrier tape, and all personnel should be informed that it is a no-go area.
- A guard should be appointed to enforce this no-go area if there is any possibility that it could be violated, whether intentionally or inadvertently, by construction staff or members of the public.
- No measures should be taken to cover up the suspected heritage resource with soil, or to collect any remains such as bone or stone.
- If a heritage practitioner has been appointed to monitor the project, s/he should be contacted and a site inspection arranged as soon as possible.
- If no heritage practitioner has been appointed to monitor the project Amafa aKwaZulu-Natali (Heritage KZN must be notified [Tel. 033 3946543; [archaeology@amafapmb.co.za](mailto:archaeology@amafapmb.co.za)]
- The South African Police Services should be notified by a SAHRA staff member or an independent heritage practitioner if human remains are identified. No SAPS official may disturb or exhumate such remains, whether of recent origin or not.
- All parties concerned should respect the potentially sensitive and confidential nature of the heritage resources, particularly human remains, and refrain from making public statements until a mutually agreed time.
- Any extension of the project beyond its current footprint involving vegetation and/or earth clearance should be subject to prior assessment by a qualified heritage practitioner, taking into account all information gathered during this initial heritage impact assessment.