

**PROPOSED WEMBEZI B HOUSING DEVELOPMENT,  
INKOSI LANGALIBALELE LOCAL MUNICIPALITY,  
KWAZULU-NATAL**

**Phase 1 Heritage Assessment**

**December 2018**

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## **EXECUTIVE SUMMARY**

Stedone Developments (Pty) Ltd is the developer of the proposed housing development at Wembezi B section. The proposed project seeks to extend the already existing residential area of Wembezi B section. The proposed site for development was registered in the late 1990s but due to technical and financial constraints, construction activities were put on hold. The Inkosi Langalibalele Local Municipality has identified the need to provide subsidised housing throughout its entire area of jurisdiction. The Wembezi section B subsidised housing project forms part of this initiative.

The project area is 16.5 Ha (165 000m<sup>2</sup>) in size thereby triggering section 38(1) (c) (i) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999) that refers to — (c) any development or other activity which will change the character of a site— (i) exceeding 5 000m<sup>2</sup> in extent. Section 38 of the NHRA lists developments that may require a heritage impact assessment.

Wembezi is located in the Inkosi Langalibalele Local Municipality and is situated to the west of the N3 highway as well as west of the town of Estcourt which is situated on the eastern side of the highway. A section of Wembezi B has already been developed and the vacant area to north west of the existing houses is where the proposed housing development is to take place.

A site inspection was undertaken on 4 December 2018. Visibility was good as parts of the site had been burnt in the winter and the area is largely open grassland. The specialist also spoke to two residents regarding the project area.

On the eastern boundary of the development are established houses and a regional office of a provincial department. Some dumping of household rubbish and building rubble is taking place on the project area. Various infrastructural developments were found during the inspection which may have been built in the late 1990s when the housing project was first initiated

A cemetery that is still in use is situated on the north-western boundary of the housing development. The cemetery appears to be expanding both westwards as well as southwards. No other heritage resources were found on the project area.

The South African fossil sensitivity map indicates that the project area falls within an area of very high sensitivity which requires a field assessment to determine if fossils will be impacted by development. Such an assessment was undertaken in July 2017 by Gideon Groenewald who was appointed to undertake a Phase 1 palaeontological assessment for the proposed Wembezi water

conservation and demand management bulk water and reticulation scheme upgrade, the scope of which included the housing project area.

According to Groenewald, the wider study area is underlain by Permian aged sedimentary rocks of the Beaufort Group, as well as Jurassic aged dolerite of the Karoo Supergroup and alluvial deposits. The field investigation confirmed that most of the area is underlain by a very thick (>1.5m) cover of the Quaternary aged Masotcheni Formation (Qm) sediments. Groenewald stated that it was highly likely that significant fossil finds could be associated with this extensive cover of Quaternary aged sediments at Wembezi.

Significant trace and vertebrate fossils were observed during Groenewald's field investigation and the potential for finding significant fossils in any excavation into sediments of the Normandien Formation is very high, with potential to find fossils in the Masotcheni Formation and alluvium rated as very high as well. Based on the field surveys undertaken by Groenewald, several palaeontological findings were identified, some of which occur in close proximity to the proposed housing project area. Due to the proximity of these findings that could yield palaeontological artefacts, it is recommended that a Chance Find Protocol (CFP) is adhered to for the proposed housing project including the appointment of a palaeontologist to monitor the site during excavations. The requirements of the CFP are included in the mitigation measures provided in Chapter 9 of this report.

It is also recommended that there a 20m buffer is placed between the cemetery and the housing development to ensure that there is no impact on the graves during the construction of the houses.

The proposed housing development may proceed from a heritage perspective as long as the recommendations and mitigation measures provided in this report are implemented.

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## AUTHOR DETAILS

| Name        | Qualifications                                          | Professional Registration                                                                                   |
|-------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
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## 1. INTRODUCTION

Stedone Developments (Pty) Ltd is the developer of the proposed housing development at Wembezi B section. The proposed project seeks to extend the already existing residential area of Wembezi B section. The proposed site for development was registered in the late 1990s but due to technical and financial constraints, construction activities were put on hold. The Inkosi Langalibalele Local Municipality has through its IDP process, and extensive consultation with respective beneficiary communities residing within the Local Municipality, identified the need to provide subsidised housing throughout its entire area of jurisdiction. The Wembezi section B subsidised housing project situated within the Municipality forms part of this initiative (Sphe Consulting Services 2018:2).

JLB Consulting was appointed by Sphe Consulting Services, who are the appointed environmental assessment practitioner (EAP), to undertake a heritage impact assessment (HIA) of the project area. This report serves as the Phase 1 HIA for the proposed Wembezi B section housing development.

## 2. LEGISLATIVE BACKGROUND

The project area is 16.5 Ha (165 000m<sup>2</sup>) in size thereby triggering section 38(1) (c) (i) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999) that refers to—

(c) *any development or other activity which will change the character of a site—*

(i) *exceeding 5 000 m<sup>2</sup> in extent.*

Section 38 of the NHRA lists developments that may require an HIA.

In addition, the proposed housing development 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 (KZNHA) (No. 4 of 2008).

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

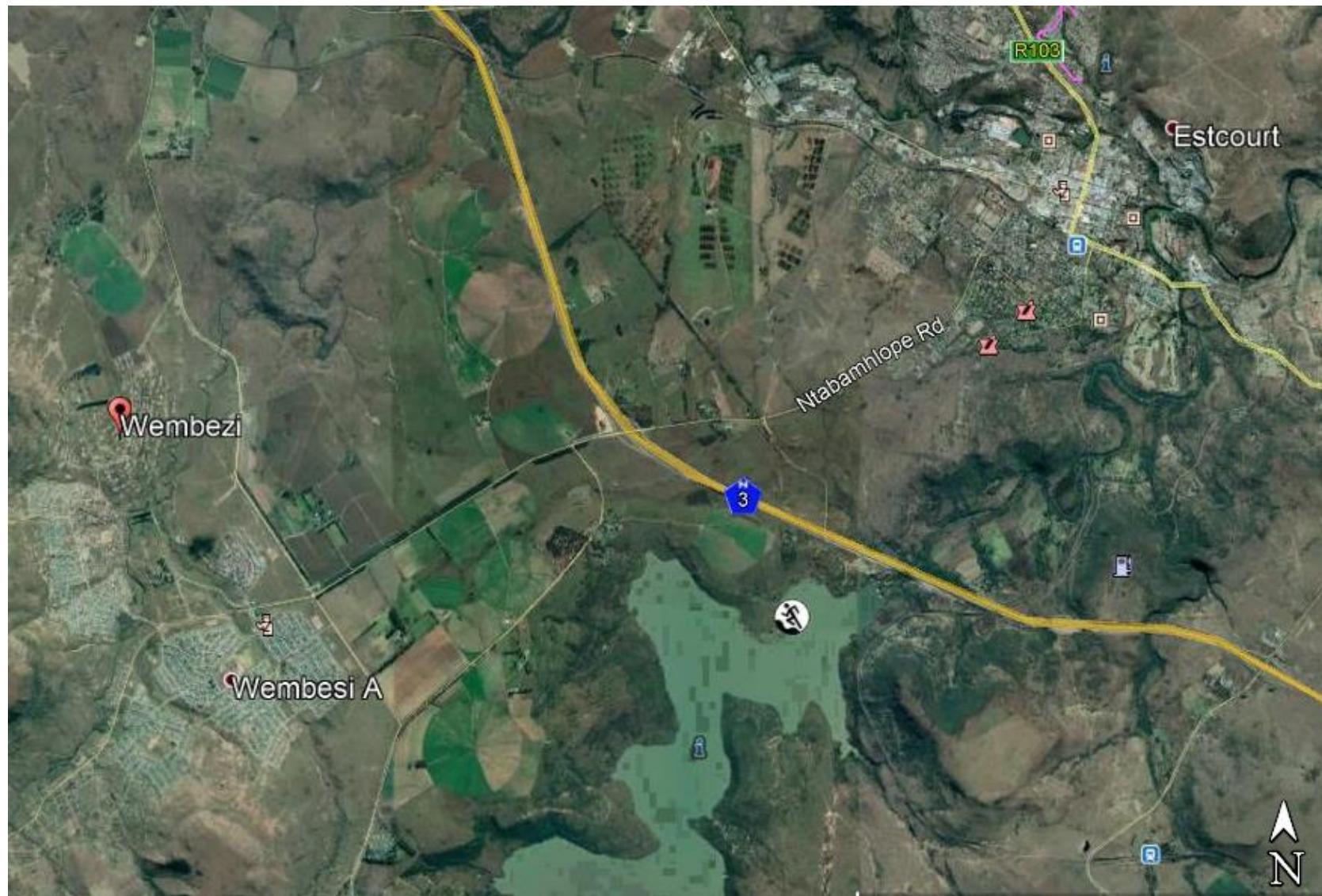
- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites 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).

This Phase1 HIA is undertaken to assess whether any heritage resources will be impacted by the proposed development.

### **3. LOCATION**

Wembezi is located in the Inkosi Langalibalele Local Municipality and is situated to the west of the N3 highway as well as to the west of the town of Estcourt which is situated on the eastern side of the highway (see **Figure 1**). A section of Wembezi B has already been developed and the vacant area to north west of the existing houses is where the proposed housing development is to take place (see **Figure 2**). The approximate centre of the development is at 29°02'09.31"S 29°47'02.25"E.



**Figure 1: Location of Wembezi in relation to Estcourt and the N3 highway**



**Figure 2: Project area in relation to developed Wembezi B**

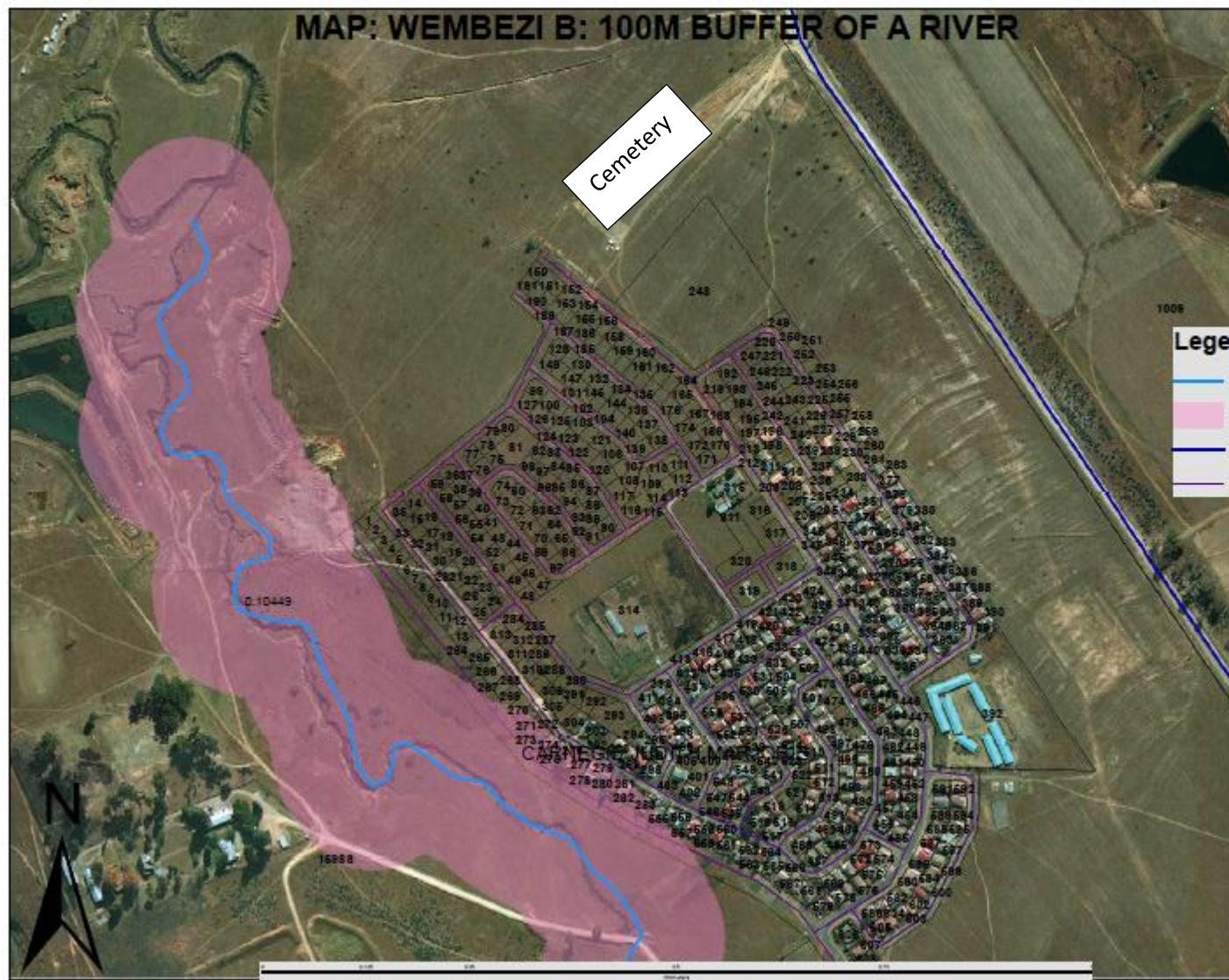


Figure 3: Proposed development with 100m buffer around watercourse indicated with pink shade

#### 4. TERMS OF REFERENCE

Undertake a Phase 1 Heritage Impact Assessment in order to determine the possible existence of heritage resources, as listed above, in the project area that could be impacted by the proposed Wembezi B housing development. Provide mitigation measures to limit or avoid the impact of the construction of the project on heritage resources.

Submit the HIA report to the provincial heritage resources authority, Amafa aKwaZulu-Natali (Amafa), for their assessment and comment.

## 5. METHODOLOGY

A survey of literature, including other HIA reports completed in the area and captured on the SAHRIS database was undertaken in order to be aware of any heritage resources that may have been identified in such reports.

A site inspection was undertaken on 4 December 2018. Visibility was good as parts of the site had been burnt in the winter. The specialist also spoke to a resident of the area, Ms Bongiwe Dlamini regarding the project area and she stated that the area used to be farmed and this took place before she moved to Wembezi. Another resident stated that the farmer who worked the land used to live in the copse of trees that can be found to the west of the river which is situated outside the proposed area of development.

## 6. HISTORICAL CONTEXT OF STUDY AREA

The greater Estcourt area has been relatively well surveyed for archaeological sites in the past. The low altitude and densely wooded areas in the immediate vicinity of Estcourt have been occupied by Middle and later Iron Age farmers since around 1200 AD. The available evidence indicates that the area in the vicinity of the study area contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. These include 11 Early Stone Age site, 28 Middle Stone Age sites, 14 Later Stone Age sites, and 48 Later Iron Age sites (including some Middle Iron Age Sites belonging to the Moor Park tradition) (Prins 2013:2).

Moor Park, which is situated about 10km south east of the project area, is a large Middle Iron Age site which was one of a series built on spurs or isolated hilltops with stone walling supplementing the natural topographical defences. It represents a distinct departure from Early Iron Age sites in terms of construction, choice of situation and environment and is the earliest evidence of Iron Age penetration into pure grassland areas (Maggs 1989:37). According to Mitchell (2002:348), Moor Park is one of the first examples of the expansion of farming settlements that included rough stoned walling enclosed areas of several hectares that have produced evidence of cattle-keeping and sorghum cultivation.

In the early stages of the Anglo-Boer War, 1899-1902, the town of Estcourt was garrisoned by about 150 British soldiers which ultimately grew to over 5000 troops as the war progressed. Armoured reconnaissance trains were pushed northwards from Estcourt station towards Colenso.

The town was an important staging post for troops involved in the attempts to relieve the siege of Ladysmith (Jones & Jones 1999:74).

Estcourt/Wembezi was incorporated into a Transitional Local Council in February 1995 with the town of Estcourt and nearby Wembezi coming together to form one town. Estcourt/Wembezi serves a vast area including the Ntabamhlope – Giants Castle area and the Loskop townships. It is estimated that approximately 130 000 people are living in these surrounding areas (Inkosi Langalibalele Municipality undated:1-2).

## 7. RESULTS OF SITE INSPECTION

The project area is open grassland with thorn trees scattered throughout. On the eastern boundary of the development are established houses and a regional office of a provincial department. Some dumping of household rubbish and building rubble is taking place on the project area. Various infrastructural developments including underground drains, street lighting, etc., were found during the inspection which may have been built in the late 1990s when the housing project was initiated and then stopped as elaborated in Chapter 1 of this report.



**Figure 4: Housing, dumping and street lights on eastern boundary of development**



**Figure 5: Recent infrastructure found on site**



**Figure 6: View of project area looking southwards**

A cemetery that is still in use is situated on the north-western boundary of the housing development (see **Figure 3** above). The cemetery appears to be expanding both westwards as well as southwards.



**Figure 7: Cemetery**

Several areas of erosion ('dongas') in the project area were inspected for archaeological material but nothing was found.



**Figure 8: Eroded area**

During the site inspection furrows and roads were found throughout the project area. **Figure 2** above clearly indicates that the area was laid out at some time, presumably in the late 1990s when the area was initially planned to be developed.

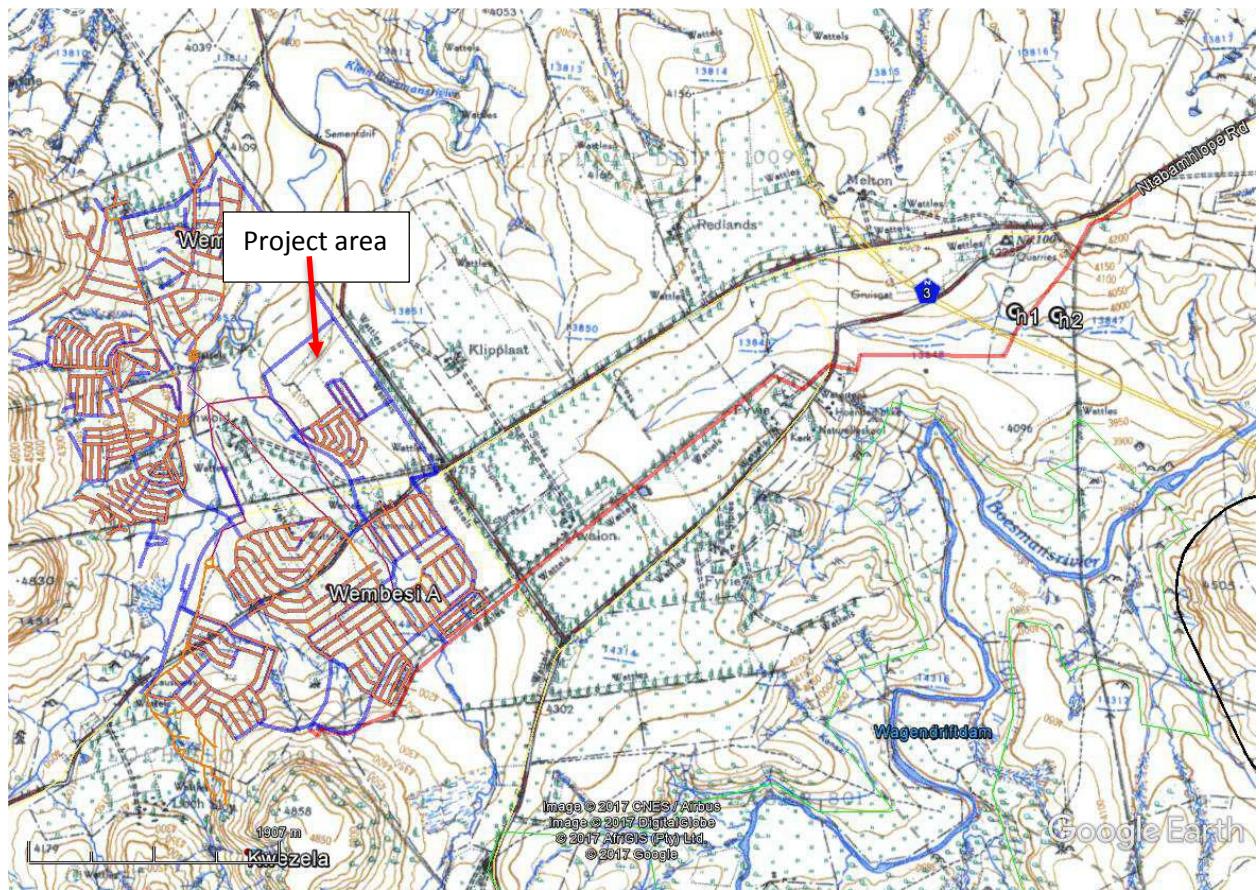


**Figure 9: Previous disturbance possibly when site was first prepared for development**

In addition, the remains of old fence posts, some made from wood, others from iron, were found throughout the project area indicating farming activity of some kind. Local residents stated that the area was farmed previously and the 1947 1:50000 topographical map of the area (2830 BB Nondweni) indicates that the area was used for farming activity (Anderson 2017:19) (see **Figure 11** below).



**Figure 10: Remains of fence posts**



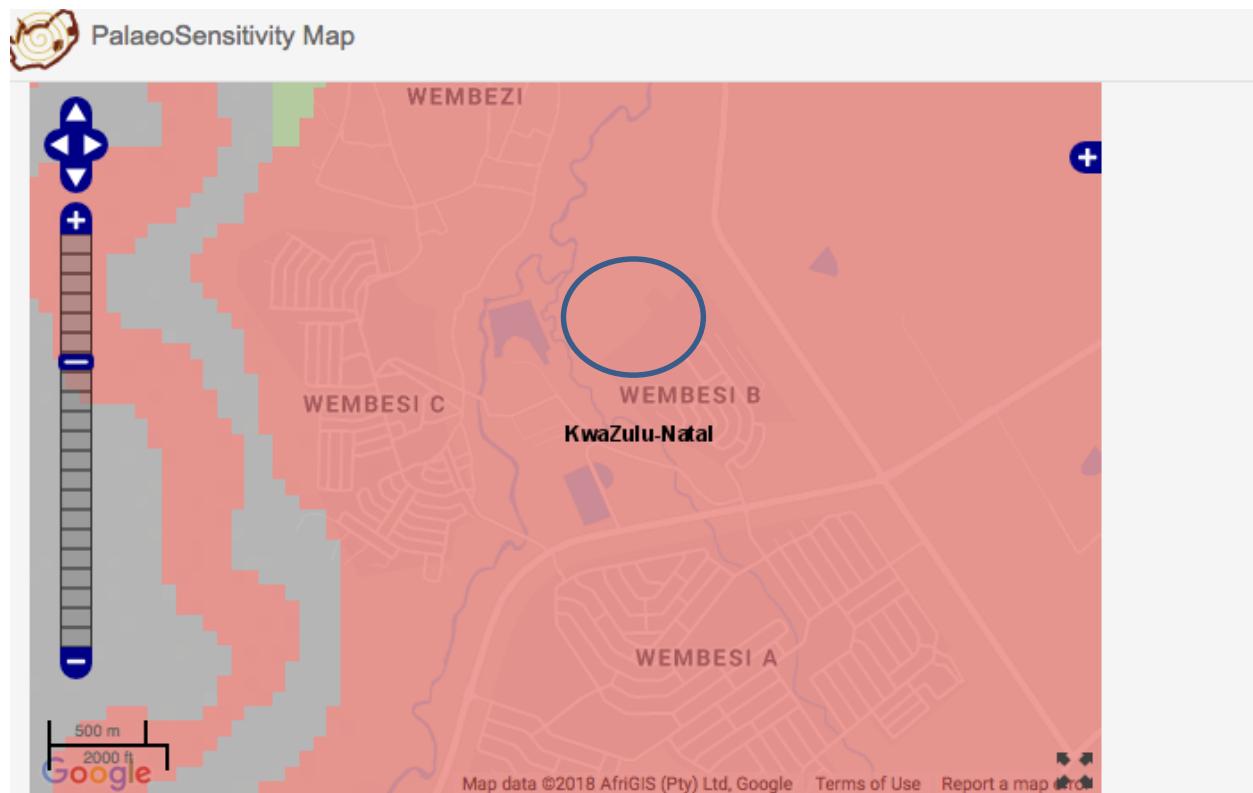
**Figure 11: Topographical map of 1947**

The South African fossil sensitivity map indicates that the project area falls within an area of very high sensitivity as indicated by the red colour on **Figure 12** below. As can be seen in the legend, an area that falls into a very high fossil sensitivity ranking requires a field assessment to determine if fossils will be impacted by developments.

It should be noted that such an assessment was undertaken in July 2017 by Gideon Groenewald who was appointed to undertake a Phase 1 palaeontological assessment for the proposed Wembezi water conservation and demand management bulk water and reticulation scheme upgrade, the scope of which included the housing project area. A survey for both the proposed Ø750mm rising main bulk water pipeline and reticulation was undertaken, as well as an impact assessment of the proposed development on the surrounding environment due to the high fossil sensitivity of the whole Wembezi area (Terratest 2018:55).

According to Groenewald (2017:12), the wider study area is underlain by Permian aged sedimentary rocks of the Beaufort Group, as well as Jurassic aged dolerite of the Karoo Supergroup and alluvial deposits. The field investigation confirmed that most of the area is underlain by a very thick (>1.5m) cover of the Quaternary aged Masotcheni Formation (Qm)

sediments. Very little research has been done on this formation in the study area and Groenewald stated that it was highly likely that significant fossil finds could be associated with this extensive cover of Quaternary aged sediments at Wembezi.



1 in 250 000 geological formation layers are courtesy of the Council for GeoScience

For more information, go to [How to Use the Palaeontological \(fossil\) Sensitivity Map](#)

| Colour        | Sensitivity        | Required Action                                                                                                                     |
|---------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| RED           | VERY HIGH          | field assessment and protocol for finds is required                                                                                 |
| ORANGE/YELLOW | HIGH               | desktop study is required and based on the outcome of the desktop study, a field assessment is likely                               |
| GREEN         | MODERATE           | desktop study is required                                                                                                           |
| BLUE          | LOW                | no palaeontological studies are required however a protocol for finds is required                                                   |
| GREY          | INSIGNIFICANT/ZERO | no palaeontological studies are required                                                                                            |
| WHITE/CLEAR   | UNKNOWN            | these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map. |

**Figure 12: Fossil sensitivity of project area which is indicated with blue circle**

According to Groenewald (2017:14), the Permian to Triassic Normandien Formation, internationally known for the wealth of trace, plant and vertebrate fossils, is present in this very high sensitive palaeontological zone of South Africa. The study area falls in the Permian Extinction time-zone (252 million years ago) in South Africa and the formation is home to the *Glossoptris* Assemblage of plants, the *Daptocephalus* and *Lystrosaurus* Assemblage Zones of vertebrates as well as well-known trace fossils. The most famous vertebrate fossils belong to the *Daptocephalus* (formally known as the *Dicynodon* Assemblage Zone) as well as the *Lystrosaurus* Assemblage Zones. Very well preserved remains of insect wings are known from the Estcourt area and well-preserved petrified wood and other plant fossils were recorded in the vicinity of the

study area which contribute to the understanding of the palaeo-environments that existed during the Late Permian, beginning of the Triassic periods in this part of the Karoo Basin. The Harrismith Member is very well known for the presence of extremely well-preserved remains of vertebrates belonging to the *Lystrosaurus* Assemblage Zone over the entire outcrop area of this unit in the Karoo Basin. Also found in the area is the Quaternary aged Masotcheni Formation which is a sandy to clay-rich Quaternary aged deposit of sediments that collect during sheetwash or covering of the footslopes of the hills during colluvial movement of sediments over the entire study area.

Significant trace and vertebrate fossils were observed during Groenewald's field investigation. According to Groenewald (2017:29), the potential for finding significant fossils in any excavation into sediments of the Normandien Formation is very high, with potential to find fossils in the Masotcheni Formation and alluvium rated as very high as well.

Based on the field surveys undertaken by Groenewald, several palaeontological findings were identified, some of which occur in close proximity to the proposed housing project area. A map, provided in the Phase 1 palaeontological assessment report (see **Figure 13** below), shows the sites where the possibility of uncovering palaeontological artefacts is most likely during construction. These sites are marked with blue markers. Based on these sensitivities, a Chance Find Protocol was developed which was recommended to be implemented throughout the construction phase of the bulk water scheme upgrade (Terratest 2018:55-56).

Due to the proximity of the above sites that could yield palaeontological artefacts to the project area, it is recommended that a similar Chance Find Protocol (CFP) is adhered to for the proposed housing project. The contents of the proposed CFP are included in Chapter 9 of this report.

## 8. RECOMMENDATIONS AND CONCLUSION

The project area of the proposed Wembezi B housing development was inspected on foot and no heritage resources were found during the inspection. However, a cemetery was found in close proximity on its north-western boundary of the site. It is recommended that there is a 20m buffer between the cemetery and the housing development to ensure that there is no impact on the cemetery during the construction of the houses.



Figure 13: Sites where the possibility of uncovering fossils is most likely during construction

The project area falls into a very high fossil sensitivity zone. Based on a Phase 1 palaeontological study undertaken in 2017 for another project in the entire Wembezi area, several palaeontological finds were identified, some of which occur in close proximity to the proposed housing project area. Due to the proximity of these sites that could yield palaeontological artefacts, it is recommended that aspects of the CFP are adhered to for the proposed housing development including the appointment of a palaeontologist to monitor the site during excavations.

The proposed housing development may proceed from a heritage perspective as long as the recommendations and mitigation measures, including the Chance Find Protocol as provided in this report, are implemented.

## 9. MITIGATION MEASURES

- For any chance finds of any type of heritage resource, all work must cease in the area affected and the Contractor must immediately inform the Project Manager. A registered heritage specialist must be called to site for inspection. The relevant heritage resource agency (Amafa) must also be informed about the finding.
- The heritage specialist will assess the significance of the resource and provide guidance on the way forward.
- Permits must 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 are to be protected by a 20 m 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.
- Should any remains be found on site that is potentially human remains, the South African Police Service (SAPS) should also be contacted. No SAPS official may remove remains (recent or not) until the correct permit/s have been obtained.
- Implementation of a Chance Find Protocol during construction of the houses. This protocol is as follows:
  - The developer and environmental control officer (ECO) must be informed of the fact that a very high palaeontological sensitivity of the development area which is underlain by shale and sandstone of the Normandien and Masotcheni Formations and alluvium. Although highly weathered, fossils might be recorded during the initial phase of construction when excavations exceed 1.5m.

- A professional palaeontologist must be appointed to inspect the site during excavations for the housing development. For the duration of excavation for the housing project, the palaeontologist must visit the site at least once every two weeks, to ensure recording of all potentially significant fossil strata.
  - The first site visit must include an introduction session with the manager of the project team, including training of the ECO and site manager/s by the palaeontologist, to train people to know what to look for in terms of fossil heritage on site.
  - The developer must provide safe storage for fossil material found during excavation operations by construction personnel.
  - The palaeontologist will be responsible for applying for all necessary permits from Amafa or SAHRA and he/she must ensure the fossil finds are removed, catalogued and housed in a suitable institution where they can be made available for further study.
  - In the case of any unusual structures, the palaeontologist must be notified, and a site visit must be arranged at the earliest possible time with the palaeontologist. In the case of the ECO or the site manager becoming aware of suspicious looking material that might be a “significant find”, the construction must be halted in that specific area and the palaeontologist must be given enough time to reach the site and remove the material before excavation continues.
- The recommendations and mitigation measures must be included in the environmental management programme (EMPr) of the project.

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