
CHANCE FIND PROTOCOL FOR PALAEOLOGICAL HERITAGE

**PALAEOLOGICAL IMPACT
ASSESSMENT (PIA) for the proposed Senqu
Rural Water Supply Project no 1304, near
Sterkspruit and specifically in the village of
Masekeleng, in the Joe Gqabi District
Municipality**

(Dr Gideon Groenewald – gideonhgroenewald@gmail.com)

**Mitigation for excavation impact on palaeontological heritage
resources**

It is essential that the appointed palaeontologist, in consultation with the Project Environmental Manager (PEM) and the contractors and ECO's of the excavation works develop a short-term strategy for the recovery of significant fossils during the excavation operation. As part of such a strategy, the discussions with the palaeontologist must include:

- Initially, and at least for the *duration of excavation*, visit the site on request of the ECO of the specific construction site, to ensure recording of all potentially significant fossil strata.
- Determine a short-term strategy and budget for the recording of significant fossils. This Strategy is simply an oral agreement on when the site is to be inspected and what the finds are that might be recorded.
- In the case of reporting of any unusual sedimentary structures, the palaeontologist must be notified, and a site visit must be arranged at the earliest possible time with the Palaeontologist.

Mitigation Measures Normally Encountered

1. Mitigation of palaeontological material must begin as soon as possible and preferably when "trial excavation" takes place.
2. A plan for systematic sampling will only be applicable if any new finds are recorded. Recording of new fossils is unlikely.
3. Mitigation will involve an attempt to capture all rare fossils and systematic collection of all fossils discovered.

Functional responsibilities of the Developer and Project Environmental Managers for the Project

1. Ensuring, at their cost, that a representative archive of palaeontological samples and other records is assembled to characterise the palaeontological occurrences affected by the excavation operation. This action is only applicable if new finds are made.
2. Costs of basic curation and storage in the sample archive at the ESI, WITS University (labels, boxes, shelving and, if necessary, specifically-tasked temporary employees).

Documentary record of palaeontological occurrences

1. The contractors will, after consultation with the PEM and in collaboration with the palaeontologist, make the excavation plan available to the appointed specialist.

Initially, all known specific palaeontological information will be indicated on the plan.

Functional responsibilities of the appointed palaeontologist

1. If applicable apply for a permit to collect fossils during the lifetime of the project and establishment of a representative collection of fossils and a contextual archive of appropriately documented and sampled palaeoenvironmental and sedimentological geodata in collaboration with the ESI at WITS University, or the Rhodes University, University of KwaZulu-Natal, depending on the expertise available at each Institute.
2. Undertake an initial evaluation of potentially affected areas and of available exposures in excavations. A short training session, inclusive of the PEM, Project Managers and the ECO's or their representatives, must be presented during the second site visit to this project.
3. On the basis of the above, and evaluation during the early stages of excavation development, in collaboration with the PEM and the contractor management team, more detailed practical strategies to deal with the fossils encountered routinely during excavation, as well as the strategies for major finds must briefly be agreed on.
4. Informal on-site training in responses applicable to "normal" fossil finds must be provided for the PEM, ECO and environmental staff by the appointed specialist. This step is will only be arranged following the discovery of significant fossils at the time of the Phase 2 site visits.
5. Respond to significant finds and undertake appropriate mitigation.
6. Reporting on the significance of discoveries, as far as can be preliminarily ascertained. This report is in the public domain and copies of the report must be deposited at ESI, ECPHRA and the South African Heritage Resources Authority

(SAHRA). It must fulfil the reporting standards and data requirements of these bodies.

9. Reasonable participation in publicity and public involvement associated with palaeontological discoveries.

Exposure of palaeontological material

1. The appointed specialist confirmed that there are no significant finds and that the chance find of more fossils in dolerite terrain is very unlikely.

CONCLUSION

The study area near Sterkspruit and specifically in the village of Masekeleng, in the Joe Gqabi District Municipality, where the Senqu Rural Water Project No 1304 is planned, falls in an area underlain by the highly sensitive Molteno and Elliot Formations that are known to contain some of the richest collections of fossils in the World (Prof Jonah Choiniere, ESI, Wits University)

It is recommended that:

- The PEM and ECO's must be informed of the fact that a very low to very high palaeontological sensitivity was allocated to the entire development and due to the highly weathered nature of the material, significant fossils is not expected before deep excavation (>1,5m).
- The chance find of fossils during excavation into rocks of the Molteno, Elliot and Clarens Formations is high to very high.
- The ECPHRA and SAHRA must be informed of the content of this "Chance Find Protocol" and EMPr arrangements by the PEM and the Developer, for final conclusion of the Project when completed.