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**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR A
PROPOSED NEW SEWAGE PIPE LINE IN THE THREE RIVERS AREA,
GAUTENG PROVINCE**

For:

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REPORT: AE915

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SUMMARY

Archaetnos cc was appointed by Nature & Business Alliance Africa (Pty) Ltd) to conduct a cultural heritage impact assessment for the proposed new sewage pipe line in the Three Rivers area. This is close to the confluence of the Klip, Vaal and Suikerbosrand Rivers in the Gauteng Province.

In the area impacted upon by the proposed development no sites of cultural heritage significance were found. The report gives an indication of the methodology followed and also indicates how to deal with any archaeological material that may be unearthed during construction activities in the future.

As no sites of cultural significance were found, no mitigation measures can be proposed. However a working brief is recommended as the area is known for important Stone Age discoveries and as the environment where the work will be conducted falls within the known environment for such finds. It is concluded that the proposed development may continue, but that the work should be monitored by an archaeologist at least twice a week.

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1. INTRODUCTION

Archaetnos cc was appointed by Nature & Business Alliance Africa (Pty) Ltd to conduct a cultural heritage impact assessment for the proposed new sewage pipe line to be installed in the Three Rivers area. This is situated close to the confluence of the Klip, Vaal and Suikerbosrand Rivers and falls within the Midvaal Municipal area in the Gauteng Province.

The survey was confined to this area.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.
5. Recommend suitable mitigation measures should there be any sites of significance that might be impacted upon by the proposed development.
6. Review applicable legislative requirements.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.

3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix B).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
5. All recommendations are made with full cognizance of the relevant legislation.
6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

4.1 The National Heritage Resources Act

According to the above-mentioned law the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

Archaeology, palaeontology and meteorites

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency.

Human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

4.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

5.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed.

The survey was undertaken on foot in certain areas and via vehicle in areas next to existing roads.

5.3 Documentation

All sites, objects features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

6. DESCRIPTION OF THE AREA

The proposed Three Rivers sewage pipe line is situated in the Midvaal Municipal area in the Gauteng Province (Figure 1-2). This is close to the confluence of the Klip, Vaal and Suikerbosrand Rivers. A GPS coordinate taken in the area is: 26.662939°S and 27.988924°E.

The area is mostly disturbed due to urban residential development in the past. The pipe line will roughly follow the Suikerbosrand River, but in order for the gradients to work out, this can not be too close to the river. It also may not be below the 75 year flood level. The line will run through mostly private residential property, which has been disturbed by the building of houses, outbuildings and other structures as well as the cultivation of gardens and lawns. The pipe line will also go through a municipal park and boat club, both of which have been disturbed by human activities. In certain instances the line also will follow the existing roads and pavements in the area (Figure 3-14).

The only area where natural vegetation are still visible is in a nature reserve adjacent to the river. However only a small portion of the reserve does consist of natural vegetation as other areas was planted with grass. The pipe line will run on the edge of the reserve, right next to the fence.

It is clear from the above mentioned that the area where development is planned have been disturbed by recent human activities. One therefore does not expect to find many

archaeological or historical features. An old bridge across the river was identified, but this will not be impacted on by the development and therefore is only mentioned.

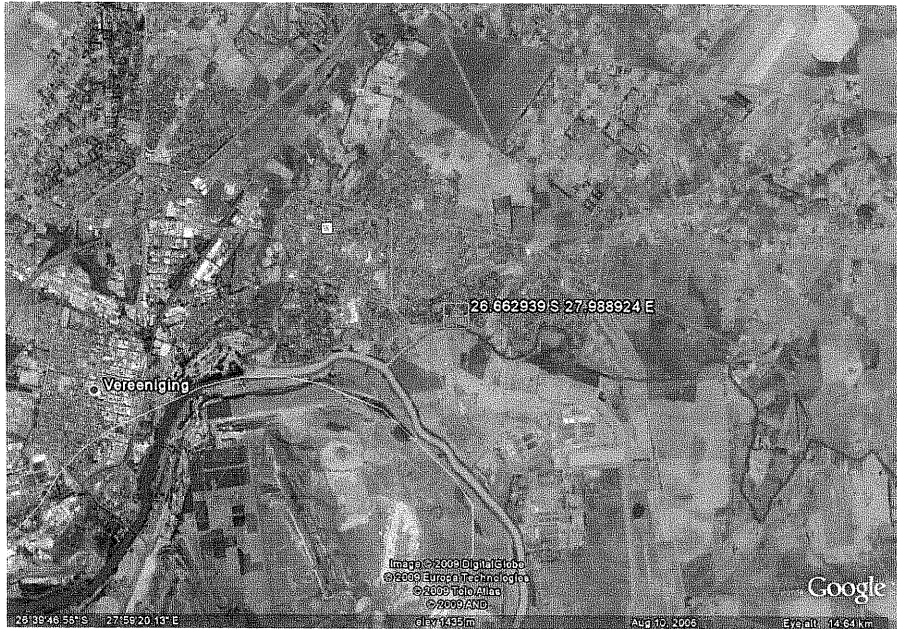


Figure 1 Location of Three Rivers, to the northeast of Vereeniging.

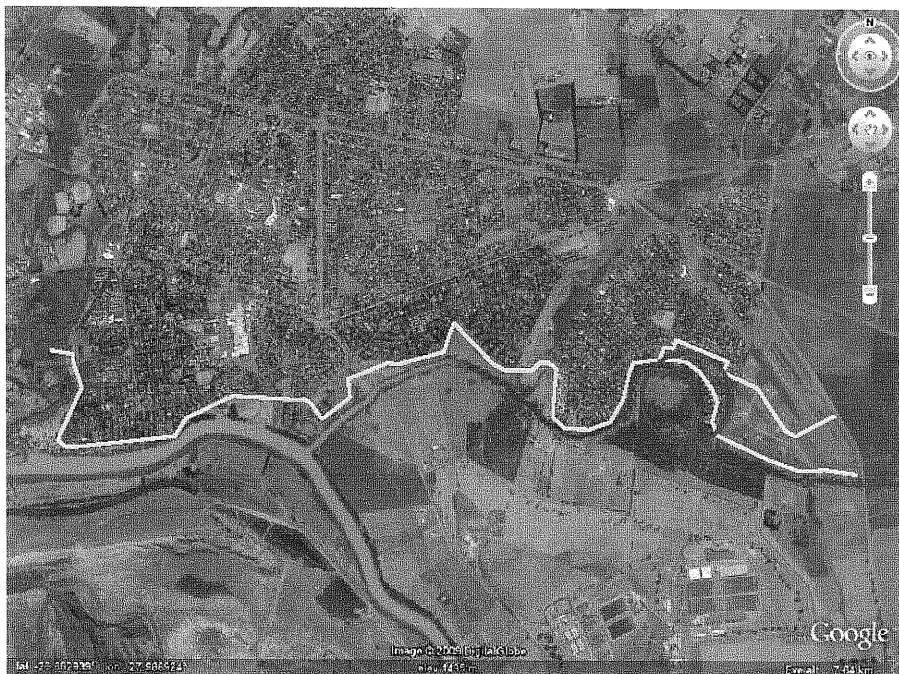


Figure 2 Location of the proposed sewage pipe line in Three Rivers.

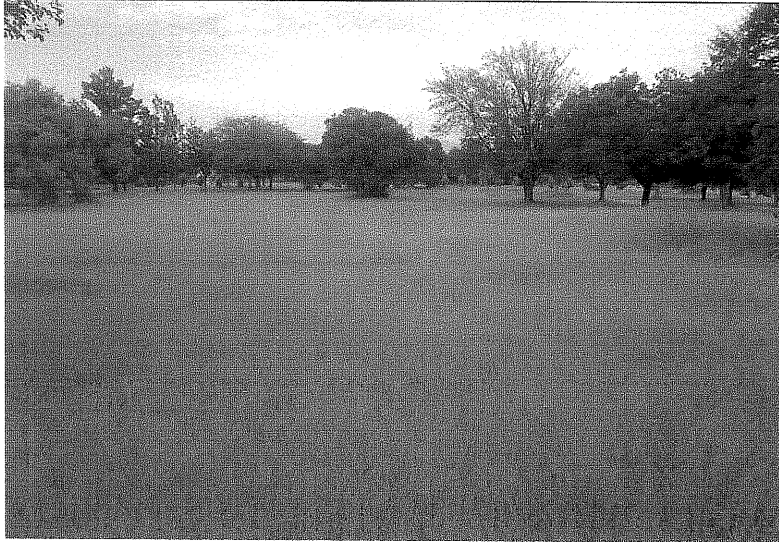


Figure 3

Area where pump station would be built next to Dee Drive in Peacehaven.



Figure 4

Inside Albatross Ski Boat Club.



Figure 5

Inside Suikerbosrant Estate. Pipeline would be built on the left hand pavement.



Figure 6

Along Falcon Street in Three Rivers East. Sewer pipeline would be built on the right hand pavement.



Figure 7

Along Dabchick Street in Three Rivers East. Sewer pipeline would be built on the right hand pavement.



Figure 8

Along Heron Street in
Three Rivers East.
Sewer pipeline would
be built on the left hand
pavement.



Figure 9

Across Sugar Bush
Drive Nature Reserve.



Figure 10

Along Sugar Bush Road. Sewer pipeline would be built between the Suikerbosrant River and the road.



Figure 11

Next to Brandmuller Street. Sewer pipeline would be built between the Suikerbosrant River and the road.



Figure 12

Vosloo Park
Corner Dee and Golf
Roads



Figure 13

Pump station 5 next to
Golf Road.
This is the start of the
new sewer outfall
pipeline.



Figure 14

From pump station 5
towards Vosloo Park
across Golf Road, in
Peacehaven

7. DISCUSSION

During the survey no sites of cultural heritage significance was located in the areas to be influenced by the development. However in order to enable the reader to understand things that may be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history. This is especially necessary in this case where heavy machinery will dig deep trenches where the pipes will be laid and where some archaeological features may be unearthed during the process.

7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

A few Stone Age sites were identified in the vicinity of the surveyed areas by other scholars. This include at site at Drie Riviere, which is the area that was investigated. This site dates back to the Early Stone Age and specifically to the Lower Acheul, 1 million years ago. It is associated with Homo Erectus (Korsman & Meyer 199: 93; Bergh 1999:4). Rock engravings have also been found close to Vereeniging in the past (Bergh 1999: 5).

Although no natural shelter was identified during the survey, the close proximity to the river makes the area very suitable for human habitation. It is also possible that natural shelters may

have been demolished by recent residential developments in the area. The river would have provided access to game and water.

Stone Age material are frequently found in the soil layers next to rivers. Due to a known site here, there definitely is a possibility of finding more such sites and artifacts. It therefore is extremely important that the trenches to be dug and the soil it produces be monitored by an archaeologist from time to time.

7.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

Previous research indicates 794 Iron Age sites in an area to the north and east of Vereeniging (Bergh 1999: 7). These date to the Late Iron Age.

Again the presence of water, grass cover and natural shelter may have contributed to people settling in the surveyed areas during the Iron Age. It is indicated that a Tswana group, the Khudu, inhabited the area previously as well as during the 19th century (Bergh 1999: 10-11). However no indication of Iron Age people was found during the survey. The subterranean presence of archaeological material is something that should however always be kept in mind.

7.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. The first white people to move into this area were the Voortrekkers during the 1830's and 1840's. The first white settlers settled in the Suikerbosrand area in 1839/40. This included the Vereeniging-Kliprivier area (Bergh 1999: 14-15).

The towns of Vereeniging and Meyerton were both established in 1892. By 1902 Kliprivier was established as a district, but by 1910 the area formed part of the Heidelberg district. In 1925 Vereeniging became a separate district, including the former district of Kliprivier (Bergh 1999: 21-24).

Apart from the mentioned bridge, no other sites dating to this era was identified during the survey.

8. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the assessment of the area was conducted successfully. Almost the entire area where the development is being planned has been disturbed by human activities in the recent past. Therefore no sites of cultural significance were found. The final recommendations are as follows:

- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. This includes graves. Care should therefore be taken when construction work commences that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate.
- As the area is known for Early Stone Age material it is extremely important that the trenches to be dug and the soil excavated be monitored by an archaeologist at least twice a week. Should any substantial discovery be made, the archaeologist should immediately contact the South African Heritage Resources Agency (SAHRA) in order to handle such find within the perimeters of the heritage legislation.

9. REFERENCES

- Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.
- Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.
- Huffman, T.N. 2007. **Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa.** Scottsville: University of KwaZulu-Natal Press.
- Knudson, S.J. 1978. **Culture in retrospect.** Chicago: Rand McNally College Publishing Company.
- Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.
- Republic of South Africa. 1999. **National Heritage Resources Act (No 25 of 1999).** Pretoria: the Government Printer.
- Republic of South Africa. 1998. **National Environmental Management Act (no 107 of 1998).** Pretoria: The Government Printer.
- Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

APPENDIX A

Definition of terms:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

Cultural significance:

- Low A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.