# ARCHAEOLOGICAL IMPACT ASSESSMENT OF THE PROPOSED UPGRADING OF THE VREDENDAL NORTH WASTE WATER TREATMENT WORKS (Portion 386 of the Farm Vredendal No. 292) VREDENDAL WESTERN CAPE

Prepared for

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On behalf of

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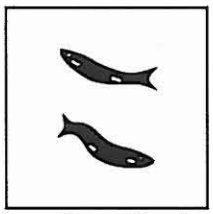
By



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## Executive summary

An Archaeological Impact Assessment of the proposed upgrading of the Waste Water Treatment Works in Vredendal North in Vredendal has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed development activities.

A few Later Stone Age flakes were found near the Matzikama wetland and pan, where some additional treated waste water will be discharged, but these finds have been rated as having low local significance.

## 1. INTRODUCTION

### 1.1 Background and brief

EnviroAfrica, on behalf of the Matzikama Municipality requested that the Agency for Cultural Resource Management conduct an Archaeological Impact Assessment for the proposed upgrading of the Waste Water Treatment Works (WWTW) in Vredendal North in Vredendal in the Western Cape Province.

The WWTW is located on Portion 386 of the Farm Vredendal No. 292 Vanrhynsdorp. The 8.0 ha fenced site is zoned as Municipal Services and has an existing footprint of about 3.5 ha. The footprint of the upgraded WWTW will comprise about 0.4 ha and does not require expansion outside its existing fenced off area.

The proposed project comprises upgrading the existing WWTW. This entails establishing additional infrastructure on the site that will eventually pump treated waste water via a series of underground pipelines in order to irrigate existing parks, sports fields, and public open space in the town. Excess treated waste water will also be discharged via a pipeline into the Matzikama wetland area situated less than a kilometre to the north of the WWTW.

The aim of the study is to locate and map archaeological heritage sites/remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

A Notification of Intent to Develop (NID) checklist has been completed by the archaeologist and submitted to Heritage Western Cape (Belcom) for comment.

## 2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

- to determine whether there are likely to be any archaeological sites of significance within the proposed WWTW site and pipeline routes;
- to identify and map any sites of archaeological significance within the proposed WWTW site and pipeline routes;
- to assess the sensitivity and conservation significance of archaeological sites within the proposed WWTW site and pipeline routes;
- to assess the status and significance of any impacts resulting from the proposed development, and
- to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed WWTW site and proposed pipeline routes

## 3. THE STUDY SITE

A locality map is illustrated in Figure 1.

An aerial photograph of the study site & surrounding landscape is illustrated in Figure 2.

The irrigation area is illustrated in Figure 3.

The subject property (S 31° 39' 02.3" E 18° 32' 07.4" on map datum wgs 84) is located on Municipal land in Vredendal north in Vredendal, about 500 m south east of the Vredendal North residential area. The fenced site lies adjacent to the Municipal Solid Waste Disposal Landfill.

The proposed site comprises the existing WWTW, which includes anaerobic pond, primary ponds, secondary pond, tertiary ponds, irrigation pond and associated infrastructure. The proposed site for the upgrade of the existing works is located alongside the anaerobic pond, in a small, rectangular strip of land that has already been excavated to a depth of about 2-3 m below the ground (Figures 4-9). The site is therefore already severely degraded. Dumping of building rubble and domestic waste is also widespread. The soils comprise mainly wind blown red sands underlain by homogenous clay deposits. The surrounding land use comprises vacant land, municipal landfill and the Matzikama Eco-Park to the north.

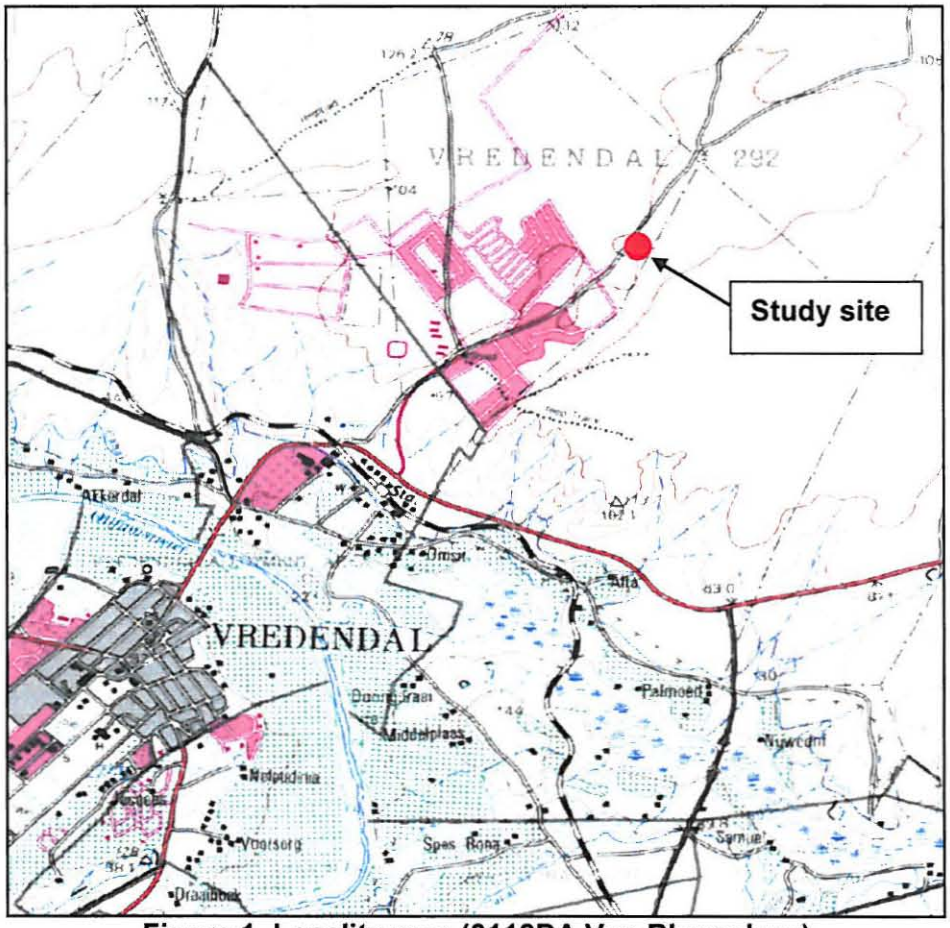


**Figure 1. Locality map (3118DA Van Rhynsdorp)**

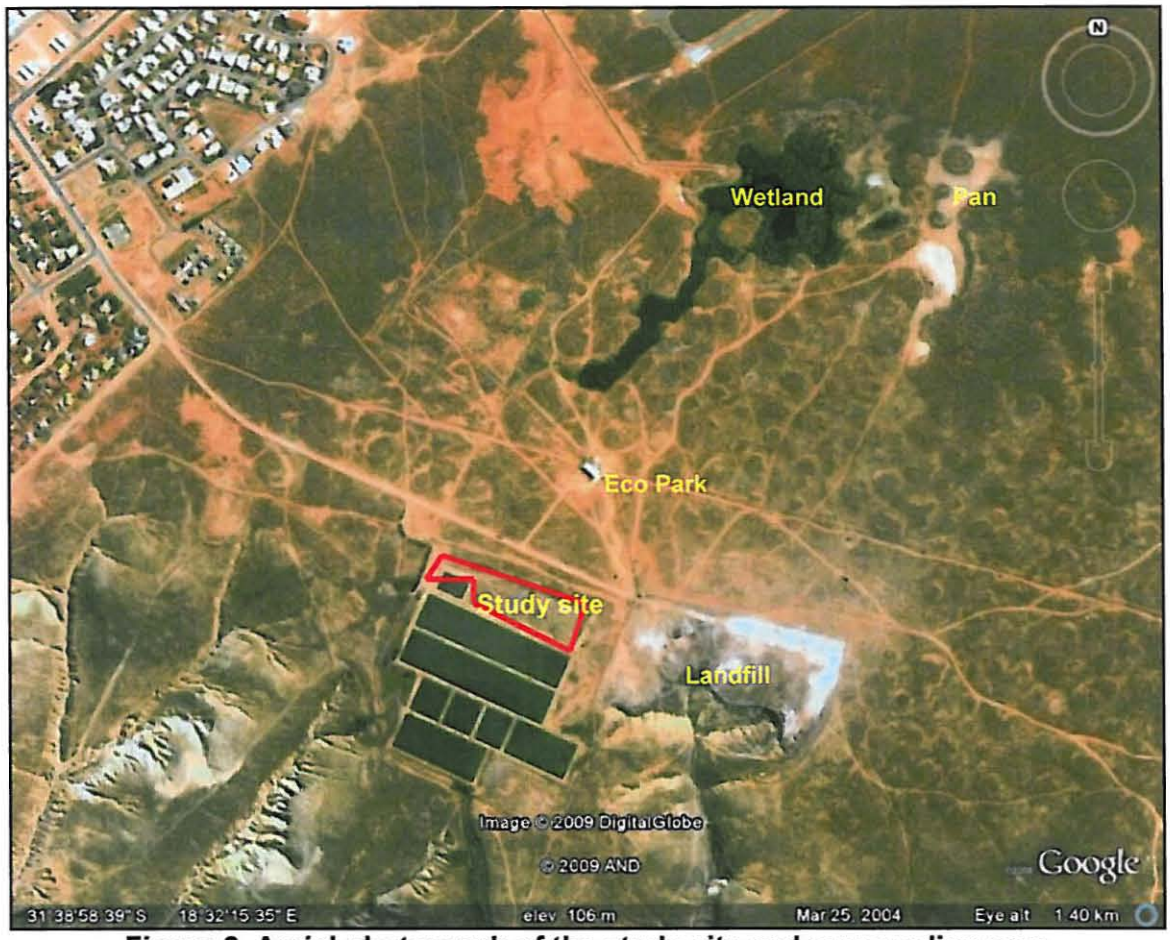


**Figure 2. Aerial photograph of the study site and surrounding area**


**Figure 3. Vredendal North Irrigation Area**

Figure 4. View of the site facing east

Figure 5. View of the site facing south west

Figure 6. View of the site facing west

Figure 7. View of the site facing west

Figure 8. View of the site facing west

Figure 9. View of the site facing south west

## 4. APPROACH TO THE STUDY

### 4.1 Method of survey

The approach followed in the archaeological study entailed a survey of the proposed 0.4 ha upgrade area. The study also included an inspection of the proposed pipeline routes to the park, sport fields and open space, as well as to the Matzikama wetland area.

The site visit and assessment took place on the 25th March, 2009.

A desk top study was also undertaken.

### 4.2 Constraints and limitations

There were no constraints or limitations associated with the study.

### 4.3. Identification of potential risks

There are no potential risks associated with the proposed project.

### 4.4 Results of the desk top study

Several Early Stone Age implements were documented in ploughed fields during a study of Erf 3853 Vredendal (Kaplan 2008a), while a study of several erven alongside Erf 3853 failed to document any archaeological material (Kaplan 2008b, c). Vredendal is an intensively cultivated area (mainly vineyards), with the Olifants River literally running through the town, where it discharges into the Atlantic Ocean at Papendorp about 40 km to west.

## 5. FINDINGS

A broken silcrete flake was found in the car park at the entrance to the Matzikama Eco-Park, while several quartz flakes and chunks and one silcrete utilised flake was found on the surface, or embedded in the clay road leading down to the bird hides near the wetland and pan. A few more quartz flakes and pieces of quartz were found in the surrounding (disturbed) landscape. Such finds are interesting but not unusual, given that the area would have been targeted by pre-colonial people in the past as it provided access to fresh water, birds and terrestrial animals. The remains occur in a disturbed context, however and have been rated as having low local significance.

## 6. IMPACT STATEMENT

The impact of the proposed upgrading of the WWTW in Vredendal North on archaeological heritage remains is rated as being **low**.

The probability of locating any important archaeological heritage remains during implementation of the project is likely to be improbable.

**Table 1 presents an assessment of the archaeological impacts of the proposed project.**

| **Impact on Archaeological remains** | | |
|---|---|---|
| | **With Mitigation** | **Without Mitigation** |
| **Extent** | Local | Local |
| **Duration** | Permanent | Permanent |
| **Intensity** | Low | Low |
| **Probability** | Improbable | Improbable |
| **Significance** | Low | Low |
| **Status** | Neutral | Neutral |
| **Confidence** | High | High |

## 7. CONCLUSION

The Phase 1 Archaeological Impact Assessment of the proposed upgrading of the WWTW in Vredendal North in Vredendal has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed development activities.

- Should any unmarked human remains be disturbed, exposed or uncovered during excavation for the various pipelines, these must immediately be reported to Heritage Western Cape (Att: Mr Nick Wiltshire 021 483 9695) or the South African Heritage Resources Agency (Att: Dr A. Jerardino 021-462 4502). Burials remains must not be disturbed until inspected by the archaeologist.

## 8. REFERENCES

Kaplan, J. 2008a. Phase 1 Archaeological Impact Assessment proposed shopping centre development (Erf 3853) Vredendal, Western Cape Province. Report prepared for EnviroAfrica. Agency for Cultural Resource Management.

Kaplan, J. 2008b in prep. Phase 1 Archaeological Impact Assessment proposed development Remainder Portion of Erf 3853 Vredendal, Western Cape Province. Report prepared for EnviroAfrica. Agency for Cultural Resource Management.

Kaplan, J. 2008c. Phase 1 Archaeological Impact Assessment Portion of Portion 116 of Farm 292 Vredendal. Report prepared for EnviroAfrica. Agency for Cultural Resource Management