

# HERITAGE IMPACT ASSESSMENT OF A PROPOSED EFFLUENT DISPOSAL SITE, WORCESTER

Prepared for

**SRK Consulting**

June 2003



Prepared by

**Tim Hart**

**Archaeology Contracts Office**

Department of Archaeology

University of Cape Town

Private Bag

Rondebosch

7701

Phone (021) 650 2357

Fax (021) 650 2352

Cell 073 1418618

Email [tjg@age.ac.za](mailto:tjg@age.ac.za)

## CONTENTS

<b>1</b>	<b>Introduction</b> .....	<b>4</b>
1.1	Terms of reference .....	4
1.2	Description of the affected environment.....	4
1.2.1	Pipeline.....	4
1.2.2	Irrigation area.....	4
<b>2</b>	<b>Method</b> .....	<b>4</b>
2.1	Restrictions.....	5
<b>3</b>	<b>Findings</b> .....	<b>5</b>
3.1	Impacts and risks.....	5
<b>4</b>	<b>Recommendations</b> .....	<b>5</b>
4.1	Human burials .....	5

## **EXECUTIVE SUMMARY**

A heritage impact assessment of a proposed effluent disposal site and pipeline near Worcester, South Western Cape, has identified no significant impacts that need to be mitigated prior to development activities.

A procedure for dealing with unidentified human burial during construction work is indicated.

# 1 Introduction

The Archaeology Contracts Office of the University of Cape Town was appointed by SRK Consulting to conduct a phase 1 archaeological and heritage assessment of a proposed effluent pipeline and waste disposal area located near Worcester, South Western Cape Province. The site is required for the disposal of concentrated effluent that is produced as a by-product of KWV and Distell's brandy and alcohol distilling operations and Brenn-O-Kem's processing operations. Liquid waste is to be piped from the operations to a 40-hectare irrigation site situated adjacent to the municipal rubbish dump. The irrigation site is essentially an evaporation facility where the water will be evaporated off the liquid waste and the resulting organic component recycled through composting. The extent of the proposed development falls within the requirements for a heritage impact assessment as required by section 38 of the South African Heritage Resources Act 25 of 1999. Figure 1 (supplied by SRK) indicates the irrigation area and the route of the pipeline.

## 1.1 Terms of reference

The ToR for specialist *Phase 1 archaeological impact assessment* as required by SRK are to:

- ◆ Identify and map heritage resources on the potential site and immediately surrounding area;
- ◆ Determine the importance of the heritage resources in a regional context;
- ◆ Determine and assess the impact of the proposed effluent disposal site on heritage resources;
- ◆ Recommend mitigation measures to minimise impacts associated with the proposed effluent disposal site;
- ◆ Recommend and implement additional terms of reference, based on professional expertise and experience.

## 1.2 Description of the affected environment

### 1.2.1 Pipeline

The pipeline commences at the Brenn-O-Kem plant in the industrial area on the east side of Worcester and runs southwards close to the Hex River to the irrigation area via the R43 Villiersdorp Road. This part of Worcester lies well outside the historic core of the town. The landscape it passes through consists of flatlands, open space and road reserves underlain by an ancient boulder strewn flood plain of the Hex River and Breede Rivers.

### 1.2.2 Irrigation area

This lies immediately adjacent to the municipal landfill. The landscape is flat and boulder strewn being part of an ancient alluvial fan. The site is not used for any form of agriculture and appears to have never been ploughed – this is probably because it is too rocky to be suitable. There is no evidence of any built structures on the site. At present the area is rather polluted with debris that have blown off the municipal waste site as well as illegally dumped materials. The landscape provides no foci (rockshelters or rocky outcrops) that would have attracted prehistoric occupation of the area.

# 2 Method

The study area was visited and searched by two archaeologists (Tim Hart, MA and Antonetta Jerardino, Phd) who searched the affected areas. Any heritage sites found were to be recorded, photographed and given a co-ordinate using a Garmin GPS 3 plus set on map datum WGS 84.

## 2.1 Restrictions

The irrigation/evaporation area was easily accessible and surface visibility was good. The pipeline is to be routed underground along its entire length, so subsurface impacts cannot be evaluated directly, however the proposed route poses no threat to surface heritage sites.

## 3 Findings

While it was expected that Early Stone Age material might have been present on the surface at the irrigation site, no secure observations were made during the site visit. Fractured stone is present but this is more likely due to 'tumbling' of stones when the ancient flood plain was active. Indications are that the pipeline will not impact any significant heritage sites; however provision must be made if unmarked human burials or graveyards are encountered during the construction process (see recommendations).

### 3.1 Impacts and risks

According to our observations no impacts to heritage sites recognized in terms of the National Heritage Resources Act 25 of 1999 have been identified.

The only possible but as yet unverified source of risk may be the presence of unmarked human burials which can occur anywhere on the landscape where there is enough soil depth to dig a grave. Human remains are protected by various legislation including the National Heritage Resources Act.

**Table 1** Impacts on heritage.

	Without Mitigation	Assuming Mitigation
<b>Extent</b>	site specific	site specific
<b>Duration</b>	permanent	permanent
<b>Intensity</b>	low	low
<b>Probability</b>	low	low
<b>Significance</b>	no impact	no impact
<b>Status</b>	neutral	neutral
<b>Confidence</b>	high	high

## 4 Recommendations

No mitigation is recommended prior to the commencement of construction work.

### 4.1 Human burials

If a human burial is encountered during excavation of the pipeline, the remains must be left as undisturbed as possible. The local police must be informed as well as SAHRA (Mrs Mary Leslie 021 4624502). If the burial is deemed to be over 60 years old and no foul play is suspected, an emergency exhumation permit may be issued by SAHRA for an archaeologist to exhume the remains.

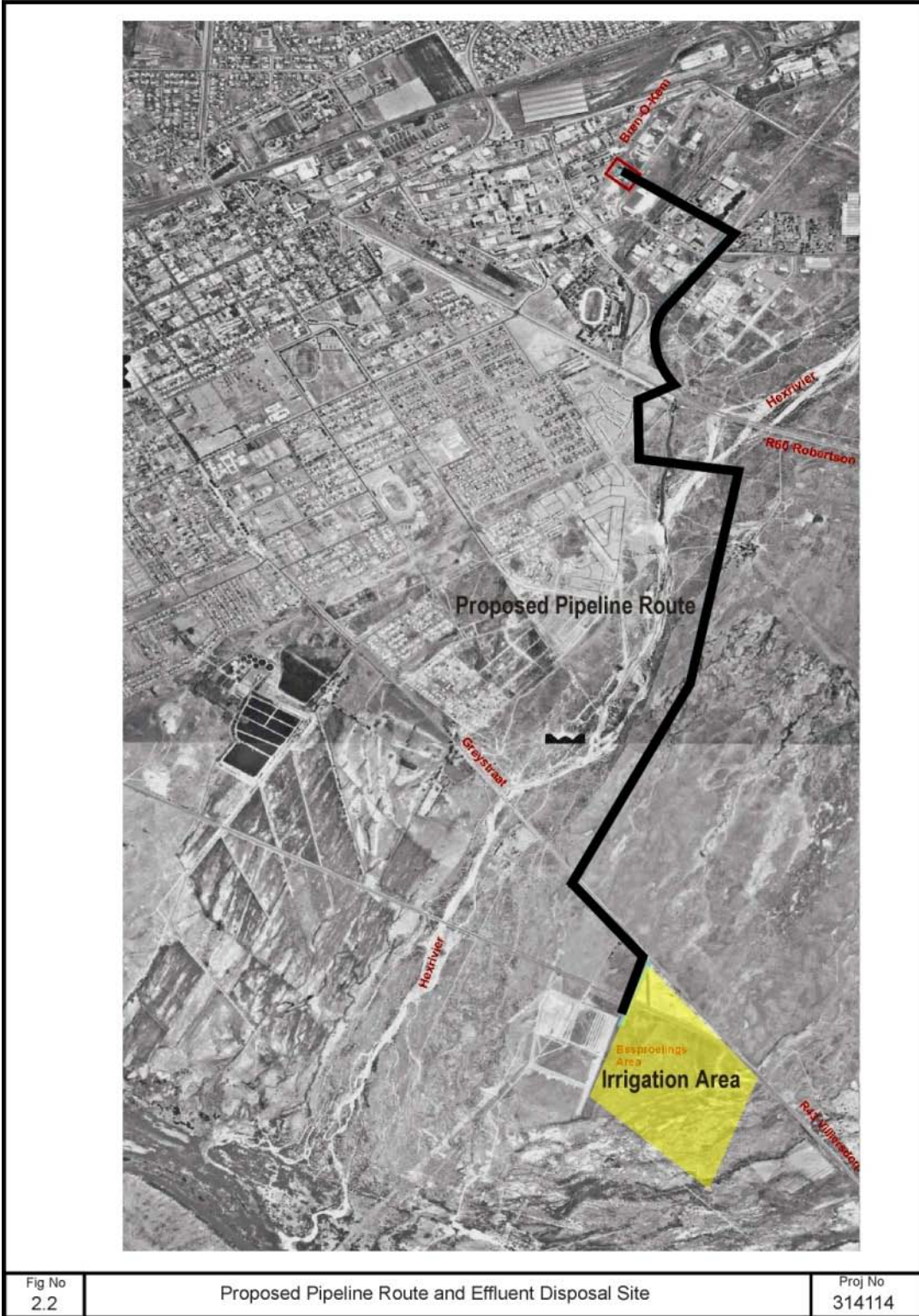


Figure 1 (Provided by SRK)