

**A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED  
CLEARING OF LAND FOR AGRICULTURAL PURPOSES ON PANZI CITRUS  
FARM NEAR KIRKWOOD, DIVISION OF UITENHAGE, SUNDAYS RIVER  
VALLEY MUNICIPALITY, EASTERN CAPE PROVINCE**

**Prepared for:** CEN Integrated Environmental Management Unit  
36 River Road  
Walmer  
Port Elizabeth  
6070  
Tel: 041 5812983/5817811  
Fax: 041 5812983  
Contact person: Dr M. Cohen  
email: steenbok@aerosat.co.za

**Compiled by:** Dr Johan Binneman  
**On behalf of:** Eastern Cape Heritage Consultants  
P.O. Box 689  
Jeffreys Bay  
6330  
Tel: 042 2960399  
Cell: 0728006322  
Email: kobusreichert@yahoo.com  
Jnfbinneman@gmail.com

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# **A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED CLEARING OF LAND FOR AGRICULTURAL PURPOSES ON PANZI CITRUS FARM NEAR KIRKWOOD, DIVISION OF UITENHAGE, SUNDAYS RIVER VALLEY MUNICIPALITY, EASTERN CAPE PROVINCE**

**Compiled by:** Dr Johan Binneman  
**On behalf of:** Eastern Cape Heritage Consultants  
P.O. Box 689  
Jeffreys Bay  
6330  
Tel: 042 962096  
Cell: 0728006322  
email: kobusreichert@yahoo.com

**Note:** This report follows the minimum standard guidelines required by the South African Heritage Resources Agency for compiling Archaeological Phase 1 Impact Assessment (AIA) reports and is part of an Environmental Impact Assessment.

## **EXECUTIVE SUMMARY**

Eastern Cape Heritage Consultants cc was appointed by CEN Integrated Environmental Management Unit on behalf of the proponent Panzi Citrus Phase Bpk to conduct a Phase 1 Archaeological Impact Assessment (AIA) for the proposed clearing of approximately 38 ha of land for agricultural activities and associated infrastructure near Kirkwood on the Farm Gouvernements Beloning No. 521.

### **Purpose of the study**

The purpose of the study was to conduct a survey of possible archaeological sites on the Farm Gouvernements Beloning No. 521 near Kirkwood in the Division of Uitenhage, Sundays River Valley Municipality, Eastern Cape Province; to establish the range and importance of the archaeological sites/remains, the potential impact of the development and to make recommendations to minimize possible damage to these sites.

### **The investigation**

The archaeological visibility was poor due to the dense ground cover, which made it difficult to locate archaeological sites/material. Mainly Middle Stone Age stone tools were observed throughout the proposed property for development. These stone tools were located where river gravels were exposed by erosion and in vehicle tracks. However, other significant sites/materials may be covered by soil and vegetation. Two cemeteries and one unmarked grave outside the cemeteries were also observed.

### **Cultural sensitivity**

Although stone tools were observed throughout the proposed property for development they are considered to be of low cultural significance. They are in secondary context and not associated with any other archaeological remains. The development is a few hundred metres from the Sundays River and freshwater shell middens may be exposed during the clearing of the vegetation. The cemeteries and unmarked graves are of great significance and a long term management plan must be compiled to protect and conserve these features (see recommendations).

## **Recommendations**

1. An archaeologist should conduct a walk through of the area after the vegetation is cleared to check if any significant sites/materials were exposed. Further recommendations will follow after the investigation.
2. A specialist/historian must be appointed to investigate the cemeteries and compile a report with recommendations.
3. If freshwater mussel middens or any concentrations of other archaeological materials are uncovered during the development, it should be reported immediately to the Albany Museum and/or the Eastern Cape Provincial Heritage Resources Authority.
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

## **PROJECT INFORMATION**

The proposed agricultural development on Portions 28, 50 and 570 of the Farm Gouvernements Beloning No. 521 will include the clearing of approximately 38 ha of land for the establishment of citrus orchards and the construction of an earth storage dam with an estimated capacity of 28 230 cubic metres.

### **The Developer**

Panzi Sitrus Plase Bpk  
Kirkwood

### **The Consultant**

CEN Integrated Environmental Management Unit  
36 River Road  
Walmer  
Port Elizabeth  
6070  
Tel: 041 5812983/5817811  
Fax: 041 5812983  
Contact person: Dr M. Cohen  
email: steenbok@aerosat.co.za

### **Purpose of the study**

The original proposal was to conduct a survey of possible archaeological sites on Portions 28, 50 and 570 of the Farm Gouvernements Beloning No. 521 near Kirkwood, Sundays River Valley Municipality, Eastern Cape Province. The survey was conducted to establish;

- the range and importance of possible exposed and *in situ* archaeological sites, features and materials,
- the potential impact of the development on these resources and,
- to make recommendations to minimize possible damage to these resources.

## Site and location

The development is located within the 1:50 000 topographic reference map 3325AD Kirkwood (Map 1). The proposed development is situated approximately 2 kilometres south-east of Kirkwood CBD. It is located south of the Sunday's River (the nearest point is 750 metres to the north) and the R336 main road between Kirkwood and Addo (Maps 1-2). The development includes the following farms:

Ptn 521/38 of the Farm Gouverments Beloning  
 Ptn 521/50 of the Farm Gouverments Beloning  
 Ptn 521/570 of the Farm Gouverments Beloning

The farm size is approximately 80 hectare and is currently used for grazing. Approximately only 38 ha will be cleared for agricultural activities and associated infrastructure. The proposed development will take place on the open areas in between the high ground with steep gradients (Figures1-3). The dam will be constructed in a small drainage line upgrading an existing earthen wall dam (Map 3, figure 4). It would appear that the property was previously used for agricultural/occupational purposes because most of the property is well covered by dense short grass and shrubs and lack the characteristic thicket vegetation of the adjacent areas.

## Relevant impact assessments in the wider Sunday's River Area

- Binneman, J. 2013a. A phase 1 archaeological impact assessment for the proposed clearing of land for agricultural purposes on portions 2, 3 and 4 of the Farm Steenbokvlakte No. 142 and Farm No. 146 in the Division of Uitenhage, Sundays River Valley Municipality, Eastern Cape Province. CEN Prepared for Integrated Environmental Management Unit. Port Elizabeth.
- Binneman, J. 2013b. A phase 1 archaeological impact assessment for the proposed establishment and operation of a composting and fertiliser processing facility on Farm 715, Division Uitenhage, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for Public Process Consultants, Greenacres.
- Binneman, J. 2012a. A phase 1 archaeological impact assessment for the proposed expansion of agricultural activities on portion 23 of Farm 104 Swanepoels Kraal and the remainder of farm 650, Kirkwood, Sundays River Valley Municipality, Eastern Cape Province. Prepared for Public Process Consultants, Greenacres.
- Binneman, J. 2012b. A phase 1 archaeological impact assessment for the proposed expansion of the existing agricultural activities on Falcon Ridge, Portion 274 Strathsomers Estate No. 42, Sundays River Valley Municipality, Eastern Cape Province. Prepared for Public Process Consultants, Greenacres.
- Binneman, J. 2010. A phase 1 archaeological impact assessment for the proposed expansion of agricultural activities on portion 20 of Farm 84, Landdrost Veeplaats, Kirkwood, Sundays River Valley Municipality, Eastern Cape Province. Prepared for Public Process Consultants, Greenacres.

The Albany Museum in Grahamstown houses collections and information from the wider region.

## BRIEF ARCHAEOLOGICAL BACKGROUND

### Literature review

In general little systematic archaeological research and regional surveys/recordings have been conducted in the wider Kirkwood/Sunday's River area. The oldest evidence of the early inhabitants are large stone tools, called hand axes and cleavers, which can be found amongst

river gravels and in old spring deposits in the region. These large stone tools are from a time period called the Earlier Stone Age (ESA) and may date between 1,5 million and 250 000 years old. In a series of spring deposits at Amanzi Spring near Addo, a large number of stone tools were found *in situ* to a depth of 3-4 metres. Remarkably, wood and seed material preserved in the spring deposits, possibly dating to between 250 000 to 800 000 years old (Inskeep 1965; Deacon 1970).

The large hand axes and cleavers were replaced by smaller stone tools called the Middle Stone Age (MSA) flake and blade industries. Evidence of MSA sites occur throughout the region and date between 250 000 and 30 000 years old. These stone artefacts, like the Earlier Stone Age tools are also found in the gravels along the banks of the Sunday's River and like hand axes are mainly in secondary context. Fossil bone may in rare cases be associated with MSA occurrences.

The majority of archaeological sites found in the area date from the past 10 000 years (called the Later Stone Age) and are associated with the campsites of San hunter-gatherers and Khoi pastoralists. These sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone (Deacon & Deacon 1999). The preservation of these sites is poor and it is not always possible to date them. There are many San hunter-gatherers sites in the nearby Suurberg and adjacent mountains. Here caves and rock shelters were occupied by the San during the Later Stone Age with well-preserved living deposits and paintings along the walls (Deacon 1976).

Some 2 000 years ago Khoi pastoralists occupied the region and lived mainly in small settlements. They were the first food producers in South Africa and introduced domesticated animals (sheep, goat and cattle) and ceramic vessels to southern Africa. Often archaeological sites are found close to the banks of large streams and rivers. Large piles of freshwater mussel shell (called middens) usually mark these sites. Prehistoric groups collected the freshwater mussel from the muddy banks of the rivers as a source of food. Mixed with the shell and other riverine and terrestrial food waste are also cultural materials. Human remains are often found buried in the middens.

## References

- Deacon, H.J. 1970. The Acheulian occupation at Amanzi Springs, Uitenhage District, Cape Province. *Annals of the Cape Provincial Museums*. 8:89-189.
- Deacon, H. J., 1976. Where hunters gathered: a study of Holocene Stone Age people in the Eastern Cape. *South African Archaeological Society Monograph Series No. 1*.
- Deacon, H.J. & Deacon, J. *Human beginnings in South Africa*. Cape Town: David Phillips Publishers.
- Inskeep, R.R. 1965. Earlier Stone Age occupation at Amanzi: preliminary investigations. *South African Journal of Science*. 61:229-242.

## ARCHAEOLOGICAL INVESTIGATION

### Methodology

The management of the proposed project were contacted prior to the investigation to inform them about the visit and to gain access to the property. A manager accompanied us to the property and pointed out the area for development from a hill. He was also consulted during the visit on possible locations of archaeological remains, graves, historical buildings and features. We were informed that there were two locations with graves. The manager only knew the location of one and directed us in the general direction of the other one. We visited the one graveyard and were informed by the manager that the graves will be fenced-off and that the development will not impact on the graves. During the survey we met a local resident who

provided some background information on the property and the cemeteries. To cover as much of the terrain as possible we followed the tracks which run through the property in a vehicle from which investigations were conducted on foot by two people. GPS readings were taken with a Garmin and all important features were digitally recorded.

### **Limitations and assumptions**

Although large areas were covered on foot it was not feasible to do an inclusive survey due to the fairly large size of the property and the dense ground cover (Maps 1-2). Most of the property has been 'cleared' of the dense thicket vegetation by past farming/occupational activities. This vegetation is characteristic of the region and still visible in the adjacent properties. Due to the dense grass and small shrubs which replaced most of the thicket vegetation the archaeological visibility was restricted and it was difficult to locate archaeological sites/materials. The only areas where archaeological materials were located were where the surface soils were exposed by natural erosion, foot paths and vehicle tracks (Figure 5). Nevertheless, the experiences and knowledge gained from other investigations in the wider surrounding region provided an information base to make assumption and predictions on the incidences and the significance of possible pre-colonial archaeological sites/material which may be located in the area, or which may be covered by the soil and vegetation.

## **RESULTS**

### **Pre-colonial archaeology**

Stone stools were the only archaeological material located and were observed throughout the area. Regardless of the large areas covered on foot no other remains such as bone, ostrich eggshell or pottery were observed. However, it is possible that sites/materials are covered by soil. The most common stone tools observed throughout the area were of Middle Stone Age (MSA) origin (dating between 250 000 and 30 000 years old) (Figure 5). The ages of the MSA stone tools in the study area are not known, but are located in the grey top soil which covers the region. The tools are manufactured on quartzite and display typical faceted striking platforms. They were found randomly without any recognized distribution patterns. Most of the tools were thick, small 'informal' flakes, cores and chunks. Few of other typical MSA tool types such as 'true' points and blades were observed. The stone tools were in secondary context and not associated with any other archaeological material. Surprisingly, only one small Earlier Stone Age (ESA) hand axe (dating between 1,5 million and 250 000 years old) were observed. These stone tools are common in the alluvial deposits close to the Sundays' River. Large numbers were located in a series of spring deposits at Amanzi Spring near Uitenhage. It is possible that these stone tools are buried and covered by vegetation. The only Later Stone Age implement of interest observed was a bored stone manufactured on soft sandstone and also used as a rubber/upper grindstone.

#### *Nature of the impacts*

The main impact on archaeological sites/remains will be the physical disturbance of the material and its context. The clearing of 38 ha of the vegetation to expand the existing agricultural activities will expose, disturb and displace archaeological sites/material. However, from the investigation it would appear that the proposed area earmarked for development is of low archaeological sensitivity. The Middle Stone Age stone artefacts observed throughout the proposed property for development are considered to be of low cultural significance, because they are in secondary context and not associated with any other archaeological remains. Notwithstanding, important materials may be covered by soil and vegetation.

### *Extent of the impacts*

The clearing of the vegetation to expand the existing agricultural activities (approximately 38 ha) may impact on remains which are buried (such as burials), but these impacts will be limited and restricted to the local area. Although the development may disturb a large area, the negative impact on possible archaeological sites/materials may be relatively small, but nevertheless permanent. In general further disturbances of sites/materials can be limited by mitigation if reported immediately to the nearest archaeologist/Eastern Cape Heritage Provincial Resources Authority.

**Table 1. Impacts on the pre-colonial archaeology.**

<b>Nature:</b> The potential impact of the clearing of the vegetation to expand the existing agricultural activities on above and below ground archaeology.		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (1)	Local (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Minor (2)	Minor (2)
<b>Probability</b>	Unlikely (2)	Unlikely (2)
<b>Significance</b>	Low (16)	Low (16)
<b>Status (positive or negative)</b>	Negative	Neutral
<b>Reversibility</b>	No	No
<b>Irreplaceable loss of resources?</b>	No, but in some cases, yes	No
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation</b>		
<p>No mitigation is proposed for the property before construction starts because the archaeological remains (if any) are of low significance (excluding human remains). However, if concentrations of archaeological materials and/or human remains are exposed then all work must stop for an archaeologist to investigate (see below).</p> <p>If any human remains (or any other concentrations of archaeological heritage material) are exposed during construction, all work must cease and it must be reported immediately to the nearest museum/archaeologist or to the Eastern Cape Provincial Heritage Resources Authority so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to investigate and to remove/collect such material. Recommendations will follow from the investigation.</p> <p>After the initial clearing of the vegetation, an archaeologist must do a walk through to check if any significant archaeological sites/materials were exposed.</p>		
<b>Cumulative impacts:</b> The cumulative impacts on above and below ground archaeology will increase if further expansions of the current proposed agricultural activities are planned for adjoining areas.		
<b>Residual impacts:</b> Permanent		

### **Historical cemeteries and graves**

Although a historical impact assessment is not part of this report, the presence of cemeteries and a grave on the proposed property for development are reported here for further investigation and recommendations by a specialist/historian.



There are two well established cemeteries on the property. One grave was located outside the cemeteries (Maps 2-3). The first cemetery, pointed out to us by the manager (general GPS reading: 33.26.32,82S; 25.27.49,26E), contains approximately 80 graves and measures about 65 x 25 metres (Figure 6). The area is overgrown and there may be more graves covered by vegetation. Most of the graves are marked by stone cairns without headstones or any other information. The ages of these graves are unknown, but it is possible that they are older than 60 years. There are also a number of recent graves marked by red bricks with identification boards dating between 2007 and 2010, indicating that this cemetery may still be in use by local communities.

A single stone cairn without a headstone was observed approximately a hundred metres east of cemetery 1 (GPS reading: 33.26.33,6S; 25.27.53,82E) (Figure 7), but there may be more on the property covered by vegetation.

Cemetery 2 is situated approximately 600 metres east of cemetery 1 and comprises of about 85 graves and measures some 100 x 100 metres in size (general GPS reading: 33.26.34,44S; 25.28.16,02E) (Figure 8). The cemetery is still used by local communities because the most recent grave dates from December 2012. The cemetery is also overgrown and there may be more graves covered by vegetation. There are also a large number of stone cairns without headstones and several graves with formal marble headstones. The ages of the stone cairns are unknown, but it is possible that they are older than 60 years.

#### *Nature of the impacts*

The majority of the graves in both cemeteries are unmarked. Only a few recent graves have headstones with names and dates. Both cemeteries are overgrown and graves have been damaged by burrowing animals. Cemeteries and graves may be subjected to physical damage during the development, i.e., clearing of vegetation, construction of access roads and vandalism. Unmarked graves outside the cemeteries may be at risk. The development in close proximity to the cemeteries could impact on their sense of place.

#### *Extent of the impacts*

Buffer zones around cemeteries and graveyards will need to be implemented to ensure that they are not damaged during the construction of access roads. Although the impacts will be limited and restricted to the local area, it will be nevertheless permanent. Any disturbances to graves will have a negative impact and perception from local communities. Disturbances of graves can be limited by mitigation if reported immediately to the nearest archaeologist/Eastern Cape Heritage Provincial Resources Authority when found.

**Table 2. Impacts on the historical cemeteries and graves.**

<b>Nature:</b> The potential impact of the clearing of the vegetation to expand the existing agricultural activities on cemeteries and graves		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (1)	Local (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Moderate (6)	Low (4)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	Medium (36)	low (30)
<b>Status (positive or negative)</b>	Negative	Neutral
<b>Reversibility</b>	No	No

<b>Irreplaceable loss of resources?</b>	Yes	Yes
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<p>A specialist/historian must be appointed to investigate the cemeteries and compile a report with recommendations. Mitigation should take the form of implementing no-go buffer zones around all cemeteries and graves.</p> <p>The extent of the cemeteries must be inspected and properly identified.</p> <p>A proper fence must be built around them including entry gates to allow visits by family and community.</p> <p>If the relocation of the graves is considered, then a full public consultation process must be followed.</p>		
<b>Cumulative impacts:</b> The cumulative impact will increase if agricultural activities are planned for adjoining areas.		
<b>Residual impacts:</b> Damage to graves is irreversible and will create negative public perceptions.		

### **Cultural landscape and significance of place**

The natural landscape under study has been utilized by people for thousands of years, but has been transformed dramatically in the recent past. Distinctive changes/marks were left on the landscape via a range of activities such as farming practises, mining and housing for farm labourers. Cemeteries and graves are an integral part of these changes/marks and the social history of the past and present. According to a local resident the property was a 'location' until the 1960s, where after the people were re-settled to Uitenhage and to a local township. Several concrete floors are still visible on the property (Figure 5). The two cemeteries on the property most probably originated from this occupation. Recent graves and the fact that the graves are still visited and cleaned, indicate that the cemeteries are still used by former residents/descendants. These people still have a longstanding association with the land, although they may not physically live there (Figures 9). The proposed development will again transform the natural landscape by clearing the vegetation and the establishing of orchards and introduce visual changes to the cultural landscape and significance of place.

#### *Nature of the impact*

The archaeological significance of the area is low and has been disturbed in the past. Therefore the visual impact of the development on the pre-colonial cultural landscape will be low as well. The development will however change the character of the place/locality and the memory of the visitors to the cemeteries. On the other hand, the area has been exposed to agricultural activities before and the new proposed developments will be an extension of similar activities nearby along the Sunday's River which have already created a 'new cultural landscape'. Nevertheless a natural landscape will be transformed to a new 'commercial' landscape which will also change the 'sense of place' to certain degree (the visual impact on the existing cultural landscape is subject to a specialist study).

#### *Extent of impact*

The proposed activity is in effect a visual intrusion that is very difficult to measure. However, the visual impact of the development will be restricted to the immediate area and will probably

have little negative effect on the cultural landscape and ‘significance/sense of place’. Notwithstanding, the ‘presence’ of the development will be long term to permanent and will be difficult to fully rehabilitate. Certain negative impacts can be mitigated.

**Table 3. Impacts on the cultural landscape and significance of place.**

<b>Nature:</b> The potential impact of the clearing of the vegetation to expand the existing agricultural activities on the cultural landscape and ‘sense of place’.		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (1)	Local (1)
<b>Duration</b>	Long term/permanent (4)	Long term/permanent(4)
<b>Magnitude</b>	Low (4)	Low (4)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	Low (27)	Low (27)
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Reversible	Reversible
<b>Irreplaceable loss of resources?</b>	No	No
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation</b>		
No mitigation is proposed for the pre-colonial archaeology because the remains are of low significance.		
A specialist/historian must be appointed to investigate the possible visual impact of the development and the effect on the cemeteries and graves in terms of the cultural landscape and ‘significance/sense of place’.		
<b>Cumulative impacts:</b> The cumulative impacts will only increase if further expansions of the of the current proposed agricultural activities are planned for adjoining areas, which may bring changes to the pre-colonial cultural landscape in terms of visual impacts and changes to ‘sense of place’.		
<b>Residual impacts:</b> The damage/changes caused by the clearing of the vegetation and preparations of the land for orchards, will be long term to permanent and will be difficult to fully rehabilitate.		

## DISCUSSION AND MITIGATION

The main impact on archaeological sites/remains will be the physical disturbance of the material and its context. The clearing of the vegetation to expand the existing agricultural activities (approximately 38 ha) will expose, disturb and displace archaeological sites/material. However, from the investigation, it would appear that the proposed area earmarked for development is of low archaeological sensitivity and the visual impact on the surrounding cultural landscape will also be low. Although Earlier, Middle and Later Stone Age stone artefacts were observed on the proposed property for development, they are considered to be of low cultural significance, because they are in secondary context and not associated with any other archaeological remains. Notwithstanding, important materials may be covered by soil and vegetation. The development is a few hundred metres from the Sunday’s River and freshwater shell middens may be exposed during the clearing of the vegetation. Although it is unlikely that any sensitive archaeological remains will be exposed during the development, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered. It is recommended/suggested that;

1. An archaeologist should conduct a walk through of the area after the vegetation is cleared to check if any significant sites/materials were exposed. Further recommendations will follow after the investigation.
2. The proposed development will take place in close vicinity of the Sunday's River, in an area where one would expect to find freshwater mussel middens. If such features or any other concentrations of archaeological material are exposed, work must stop immediately and reported to the archaeologist at the Albany Museum (046 6222312) or to the Eastern Cape Provincial Heritage Resources Authority (043 6422811) immediately. Sufficient time should be allowed to investigate and to remove/collect such material. Recommendations will follow from the investigation (See appendix B for a list of possible archaeological sites that maybe found in the area).
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. It is suggested that a person be trained to be on site to report to the site manager if sites are found.

There are several graves at cemetery 1 that date between 2007 and 2010, suggesting that the cemetery is still used by local communities. The most recent grave at cemetery 2 dates from December 2012. There are also graves of people who were borne during 1919 and 1951. This indicates that the cemetery is still used by local communities, probably by people with a longstanding association with the land, although they may not physically live there. This was confirmed by a local resident who informed us that the property was a 'location' until the 1960s where after the people were re-settled to Uitenhage and to a local township. Both cemeteries are still used by these former residents/descendants and that the graves are still visited and cleaned.

Graves and graveyards older than 60 years are protected by the National Heritage Resources Act (Act No. 25 Of 1999) (Section 36). Those younger than 60 years are not protected by the National Heritage Resources Act, but protected by the Human Tissue Act and by regional and municipal regulations and may not be disturbed or destroyed without the necessary permits and proceedings. The cemeteries and all graves, including the unmarked ones must therefore be protected and conserved during the development, for example by fencing them off and that a long term maintenance plan is implemented.

Following SAHRA's standard requirements it is recommended that;

1. A specialist/historian is appointed to investigate the cemeteries and compile a report with recommendations. Some of the aspects to be addressed must include the following (and any others the specialist may regard appropriate);
  - Investigate the possible visual impact of the development and the effect on the cemeteries and graves in terms of the cultural landscape and 'significance/sense of place'.
  - A map of the cemeteries, graves and unmarked graves outside the cemeteries must be compiled to be included in the historical report including the unmarked ones.
    - Written and photographic description of any graves where possible.
    - Exact or estimated age and affinities of the burials where possible.
  - Vegetation clearing is necessary where graves are overgrown.
  - The extent of the cemeteries must be inspected and properly identified.

- A proper fence must be built around them including entry gates to allow visits by family and community.
  - The fence must be placed at least two metres away from the perimeter of the graves.
  - No development is allowed within 15 metres from the fence line surrounding the graves.
  - If the relocation of the graves is considered, then a full public consultation process must be followed.
2. If graves are found or exposed during the development, then work must stop immediately and reported to the archaeologist at the Albany Museum (046 6222312) or to the Eastern Cape Provincial Heritage Resources Authority (043 6422811) immediately. Sufficient time should be allowed to investigate such features. Recommendations will follow from the investigation.

## **GENERAL REMARKS AND CONDITIONS**

**Note:** This report is a phase 1 archaeological impact assessment/investigation only and does not include or exempt other required heritage impact assessments (see below).

The National Heritage Resources Act (Act No. 25 of 1999, section 35) (see Appendix A) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual linguistic or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasised that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, reflect the true state of affairs. Many sites/features may be covered by soil and vegetation and will only be located once this has been removed. In the event of such finds being uncovered, (such as during any phase of construction work), archaeologists must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.

It must also be clear that Archaeological Specialist Reports (AIA's) will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should grant a permit or a formal letter of permission for the destruction of any cultural sites.

## **APPENDIX A: brief legislative requirements**

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

### ***Archaeology, palaeontology and meteorites***

35 (4) *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;*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.*

### ***Burial grounds and graves***

36. (3) *(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—*

- (a) destroy, damage, alter, exhume or remove from its original position or 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, 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 equipment, or any equipment which assists in the detection or recovery of metals.*

### ***Heritage resources management***

38. (1) *Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –*

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of the site –*
  - (i) exceeding 5000m<sup>2</sup> in extent, or*
  - (ii) involving three or more erven or subdivisions thereof; or*
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;*
- (d) the re-zoning of a site exceeding 10 000m<sup>2</sup> in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

## **APPENDIX B: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM INLAND AREAS: guidelines and procedures for developers**

### **Human Skeletal material**

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general human remains are buried in a flexed position on their side, but are also found buried in a sitting position with a flat stone capping. Developers are requested to be on alert for the possibility of uncovering such remains.

### **Freshwater mussel middens**

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m<sup>2</sup> in extent, should be reported to an archaeologist.

### **Large stone cairns**

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.

### **Stone artefacts**

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.

### **Fossil bone**

Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

### **Historical artefacts or features**

These are easy to identify and include foundations of buildings or other construction features and items from domestic and military activities.

**APPENDIX C**

DIGITAL IMAGES, MAPS AND AERIAL VIEWS OF THE  
LANDSCAPE AND HERITAGE SITES





**Figure 1.** A wide angle view of the western part of the proposed area for development (main image) and general views of the terrain to be cleared for citrus orchards (inserts).

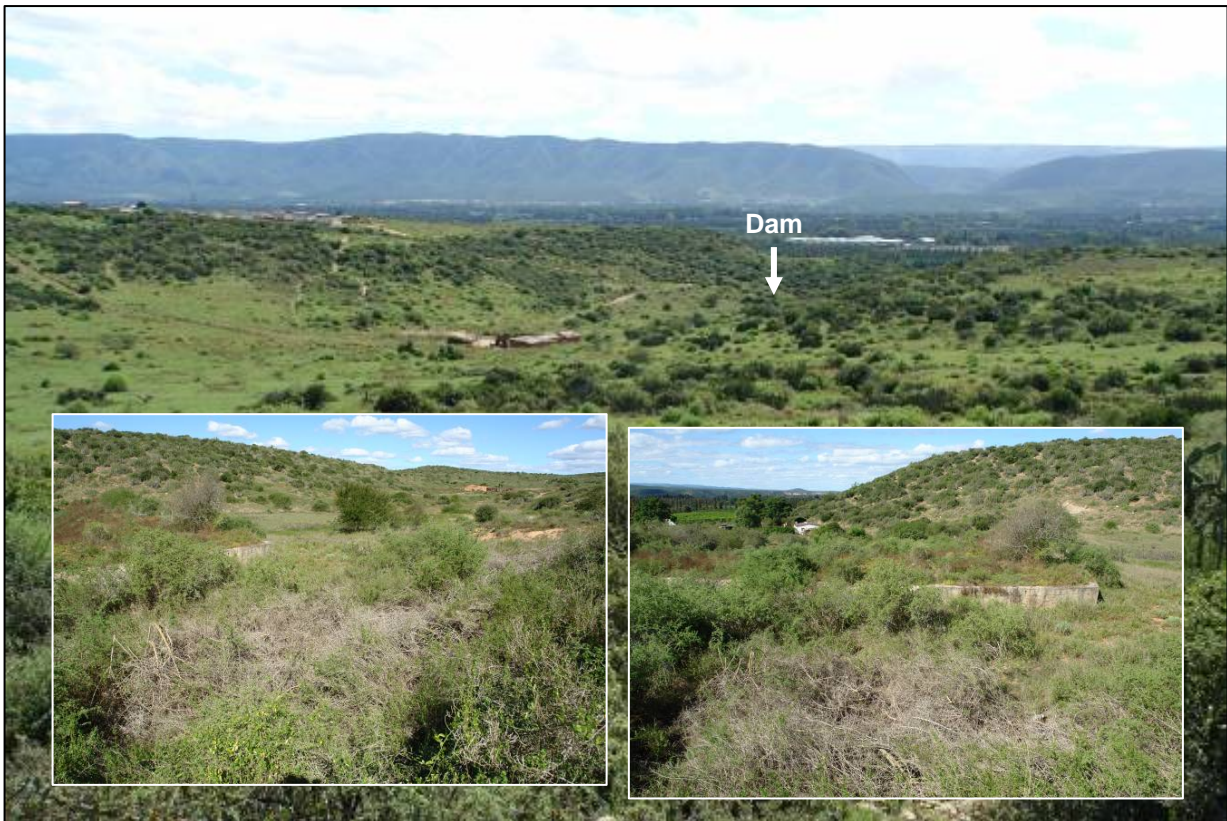


**Figure 2.** A view towards the north of the proposed area to be developed (main image) and the patches of dense vegetation covering the terrain (inserts).



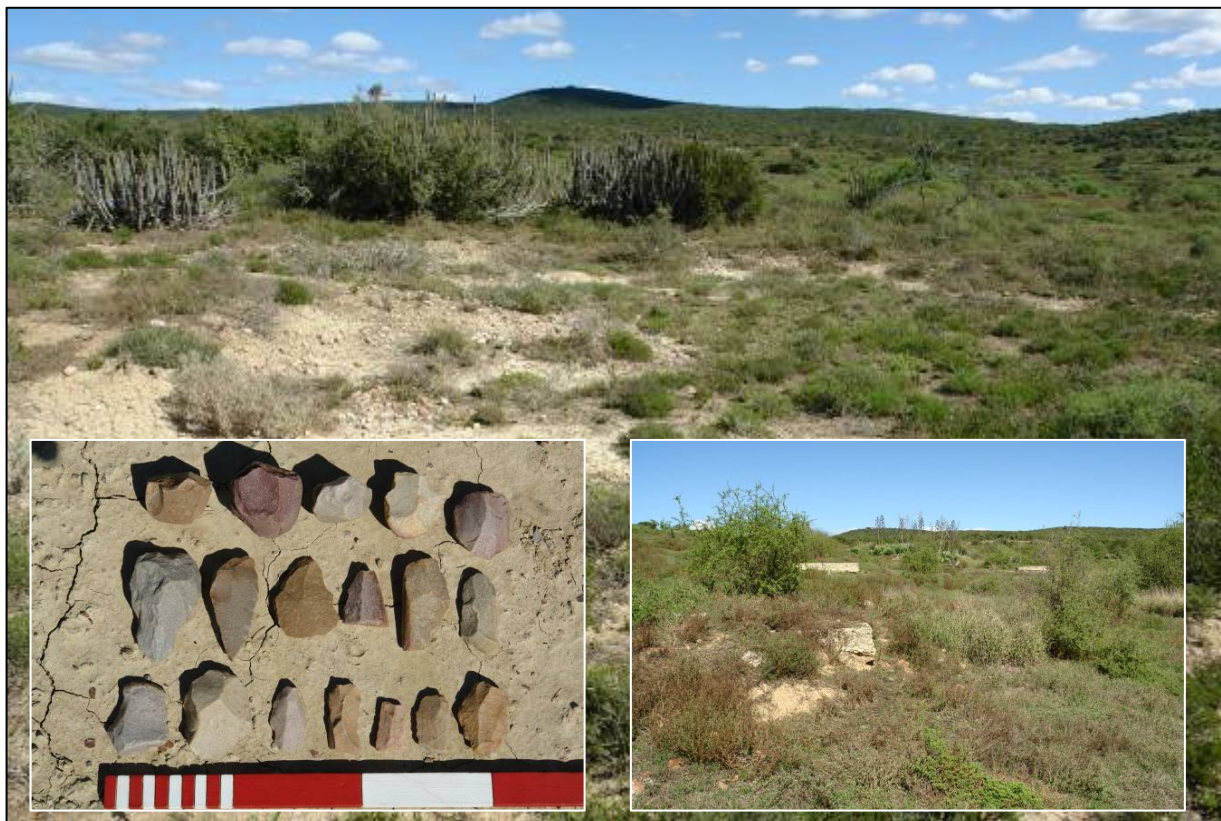


**Figure 3. General views of the eastern part of the proposed development.**



**Figure 4. A view of the approximate location for the proposed construction of the dam (main image) and images of the existing dam area (inserts).**



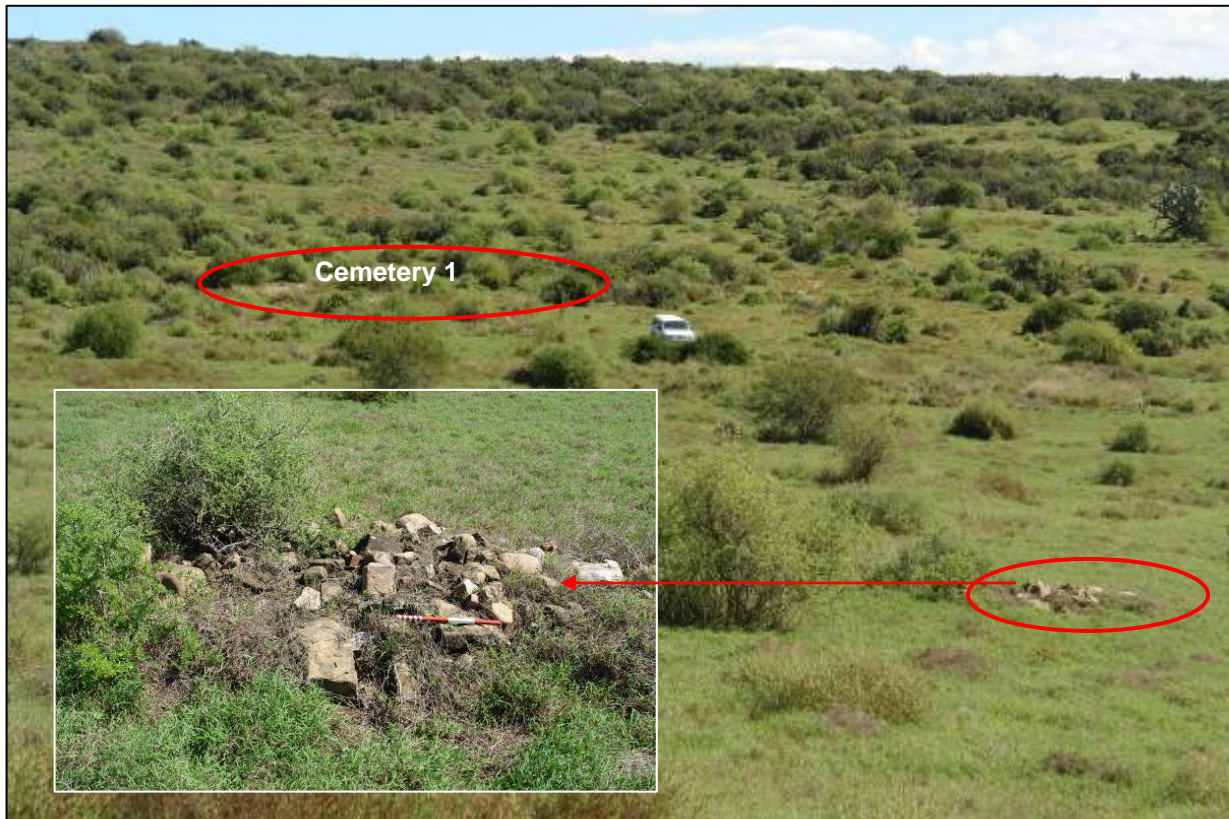


**Figure 5.** A sample of Middle Stone Age stone tools (left insert) associated with exposed river gravels (main image) and concrete foundations of demolished houses (right insert).



**Figure 6.** General view of the overgrown cemetery 1 (main image), unmarked stone cairns (left insert) and graves covered with red bricks with names and information (right insert).





**Figure 7. An unmarked grave located outside, but near cemetery 1.**



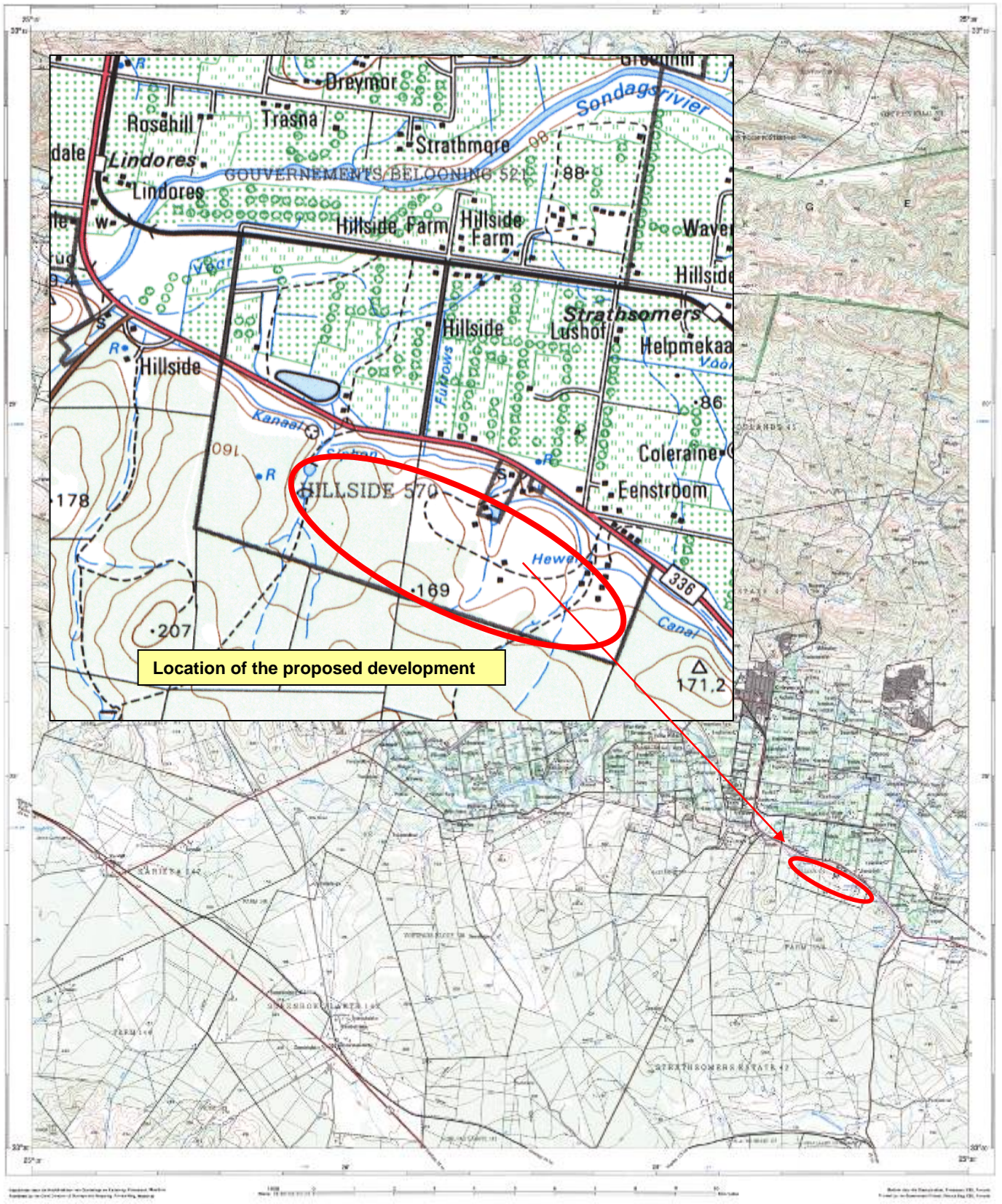
**Figure 8. A general view of cemetery 2 (main image), stone cairns (left insert) and recent graves with formal head stones (right insert). The most recent grave on the right dates from December 2012.**





Figure 9. A view of recent graves with formal headstones (main image) and information on two of the graves (inserts).





Map 1. 1:50 000 Maps indicating the location of the development. The red ovals mark the approximate area where the development will take place.





Map 2. Aerial images indicating the location of the proposed development. The yellow pegs mark the cemeteries and a grave.





**Map 3. An aerial image indicating the location of the cemeteries, a grave and the proposed dam.**