

# ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT

## Erf 7524, a Portion of Erf 1821, Tyolora: Proposed Thembalethu Plaza and Nursery School, Corner of Sandkraal- and Ngcakani Roads, Tyolora, Thembalethu, George, Western Cape Province

prepared for

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## **Executive Summary**

*As part of the Environmental Impact Assessment (EIA) for the proposed Themba lethu Plaza and Nursery School, CARM was appointed to conduct an Archaeological Heritage Impact Assessment (AHIA). The latter study was carried out at the above named property on 5 June 2007. Favourable conditions permitted a comprehensive foot survey. Surface and near surface sediments are significantly disturbed by construction of buildings and roads, the installation of bulk services and so on and as a result, the context and significance of heritage related materials, if present, are severely compromised.*

*No archaeological or heritage related materials were identified during the site inspection and foot survey and there is no indication that the study area contains any heritage-related resources.*

*Given the above, the proposed development of a shopping centre and nursery school is not likely to negatively impact tangible or intangible heritage related resources of any significance. As a conservative preventative measure, however, it is recommended that the earthworks associated with the construction phase of the proposed development be monitored by an archaeologist on a part time basis. This measure will ensure that negative impact on physical heritage related materials is avoided or minimized. Recommendations are also given in the event that significant heritage related materials or human remains are unearthed as a result of construction.*

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## **1. Introduction**

### **1.1 Background**

As part of the EIA required for the proposed development – National Environmental Management Act (No. 107 of 1998) - of the Thembalethu Plaza and Nursery School, Corner of Sandkraal- and Ngcakani Roads, Tyolora, Thembalethu, George, Western Cape Province (Figures 1, 2 & 3 and Plates 1 & 2), Ms Susanna Nel of Dirisana Environmental and Ecological Consultants, on behalf of Arengo 89 (Pty) Ltd, appointed CARM to conduct an AHIA as required by the National Heritage Resources Act (No. 25 of 1999).

The proposed development of the Thembalethu Plaza and Nursery School include the following activities:

- The bulk transportation of sewage and water including storm water;
- The construction of a road wider than 4 m or with a reserve wider than 6 m;
- Construction of a single storey shopping centre and a nursery school:
  1. the shopping centre will be 6118 m<sup>2</sup> in extent (Figures 3, 4 & 5),
  2. to consist of about 15 shops (Figures 3, 4 & 5), and
  3. will include an informal trading area / entrepreneur centre (Figures 3, 4 & 5)
- The existing nursery school will be demolished and Arengo 89 (Pty) Ltd will build a new school adjacent to the proposed shopping centre (Plates 3 & 4).
- Existing municipal services including sewage, waste disposal, water provision and electricity will be used.

For details of alternatives to the above proposal for development as well as further considerations with respect to the Nursery School, see to letter prepared in May 2007 by Dirisana Environmental and Ecological Consultants (Ref. No. EG12/2/3/1-D2/11-547/07)

### **1.2. Purpose and Scope of this Study**

Objectives of the Archaeological Heritage Impact Assessment are:

- To assess the study area for traces of archaeological materials and heritage related resources (see Appendix A);
- To identify options for archaeological heritage mitigation in order to minimize potential negative impacts; and
- To make recommendations for archaeological heritage mitigation.

Terms of Reference (ToR):

- a) Locate boundaries of the study area.
- b) Conduct a foot survey of the study area to identify and record archaeological heritage resources.
- c) Assess the impact of the proposed development on archaeological heritage resources.
- d) Recommend mitigation measures where necessary.
- e) Prepare and submit a report to Ms Susanna Nel of Dirisana Environmental and Ecological Consultants – on behalf of Arengo 89 (Pty) Ltd -, that meets standards required by Heritage Western Cape in terms of the National Heritage Resources Act, No. 25 of 1999.

### **1.3 Study Area**

The site for the above-proposed development is located in the self contained township of Thembalethu that is situated opposite the historically “coloured” areas of Ballotsview and Lawaakamp, George, and south of the N2 highway (Figures 1 & 2 and Plates 1 & 2). The study area was reached by vehicle via the N2 from Mossel Bay and by taking Exit 434 (Thembalethu) and turning right at the end of off ramp into Sandkraal Road and then first left into Ngcakani Road (Figure 1 and Plates 1 & 2). The study area is situated on the corner of Sandkraal- and Ngcakani Roads (Plate 2 and Figure 4) and is approximately 2.5 hectares in extent (Figure 3

and Plates 3 & 4), and its main boundary points - rounded to the nearest meter - are as follows (map datum WGS 84; see Plate 2 and Figures 4 & 6):

- a, S33.99921 E22.47947 (decimal degrees); 23 Y0048090 X3763696 (SA Grid)
- b, S33.99918 E22.47955 (decimal degrees); 23 Y0048082 X3763693 (SA Grid)
- c, S33.99917 E22.48045 (decimal degrees); 23 Y0047999 X3763691 (SA Grid)
- d, S33.99919 E22.48056 (decimal degrees); 23 Y0047989 X3763693 (SA Grid)
- e, S34.00135 E22.47966 (decimal degrees); 23 Y0048071 X3763933 (SA Grid)
- f, S34.00012 E22.47844 (decimal degrees); 23 Y0048184 X3763797 (SA Grid)
- g, S33.99995 E22.47840 (decimal degrees); 23 Y0048188 X3763779 (SA Grid)

The property is currently occupied by the existing nursery school and bordered by the Thembaletu taxi rank (Figures 4 & 5 and Plates 3, 4 and 5). Apart from this, the site is not in use. The surrounding area is residential and comprises houses, shacks and informal residential structures. Already Zoned for "Business", the site does not require rezoning.

The topography comprises the high ground of gently sloping hills that descend towards the east north east and west south west several hundred meters from the study area. The highest areas are approximately 200 m above mean sea level (amsl) and the descending slopes are about 180 m amsl to the east north east at a distance of around 300 m from the property and about 180 m amsl to the west south west at a distance of some 700 m from the study area. Geologically, and what is visible in the profiles of a "borrow pit", the area contains topsoil, clay and ferruginous sediments (including large numbers of centimetre size ferruginous nodules) that are significantly disturbed as a result of construction related to roads, bulk services and buildings (Plate 5).

#### **1.4 Approach to the Study**

Archaeological work by CARM in the broader area - including Mossel Bay, Goerge and Blanco - reveals that for the most part, shores with rocky inter-tidals are archaeologically sensitive. In undeveloped and semi-developed coastal areas not immediately adjacent to the high water mark, that consist of dune sands and where the inter-tidal zone is sandy however and/or that consist of other geological deposits, archaeological heritage traces are usually scarce and occur as isolated artefacts. No archaeological work was conducted in the immediate vicinity of the study area.

On behalf of the developer, Arengo 89 (Pty) Ltd, Ms Susanna Nel of Dirisana Environmental and Ecological Consultants provided CARM with a surveyor's diagram including coordinate data, layout plans and architectural sketches indicating the location, extent and layout of the study area and proposed shopping centre (Figures 3, 4 & 5). The study area was located by means of information provided by Ms. Nel, and the nature of the property facilitated a comprehensive foot survey and inspection (Plate 2 and Figure 6). GPS fixes were taken of the walk tracks to show the area covered during the foot survey as well as the location of a "borrow pit" with exposed sub-surface sediments (Figure 6 and Plate 7). Notes and a high quality, comprehensive digital photographic record were also made (full data set available from author).

## **2. Results**

Figure 6 shows the AHIA walk tracks - in black dash-dot/square line in middle of yellow and purple lines - as fixed with a hand held GPS during the foot survey. In about 1.5 hours of survey a distance of 1.8 km was walked covering an area of around 1.8 hectares. Due to grass cover a somewhat smaller area was archaeologically visible. Archaeological visibility was moderate to good (Plate 6). Several areas with clear evidence for disturbance of sediments, and the activity associated with construction of road, buildings and their associated bulk services, resulted in substantial disturbance of surface and near surface sediments (Plate 5). If

present, the context and significance of archaeological heritage materials is severely compromised.

Not a single archaeological heritage trace was seen. Exposed profiles of a “borrow pit” show that sediments consist of topsoil, clay and ferruginous deposits that include numerous ferruginous nodules (see blue dot in Figure 6 and Plate 7). In places the ferruginous deposits are exposed at the surface providing further evidence for disturbance (middle right image in Plate 6). Coordinate data for the “borrow pit” are as follows (Map Datum WGS 84):

Blue dot (Figure 6), S33.99936 E22.48051 (decimal degrees); 23 Y0047994 X3763712 (SA Natnl. Grid)

No evidence for other heritage related resources (see Appendix A) were detected or observed and no rock shelters or caves occur on the property.

Due to the absence of archaeological heritage resources and significantly disturbed surface and near surface sands, sub-surface investigation of potentially undisturbed sediments by means of Ground Penetrating Radar and/or shovel testing is not feasible.

### 3. Sources of Risk, Impact Identification and Assessment

- The proposed development as outlined in 1.1 above will involve substantial earthmoving activities that could have a permanent negative impact on archaeological resources. Archaeological traces are absent, however, and the potential presence of sub-surface archaeological heritage materials are likely to be disturbed and of low to no significance.
- Construction activities may, however, penetrate previously undisturbed sediments and it is possible that archaeological heritage materials occur in those undisturbed sediments. Part time archaeological monitoring of earthmoving activities associated with construction should avoid and/or minimize negative impact on sub-surface archaeological remains were they to be present.

Table 1 summarizes the potential impact of the proposed development on archaeological heritage resources with and without mitigation.

**Table 1. Potential Impact on and Loss of Archaeological Heritage Resources**

	<b>With Mitigation</b>	<b>Without Mitigation</b>
<b>Extent</b>	Local	Local
<b>Duration</b>	Permanent	Permanent
<b>Intensity</b>	Low to none	Unknown
<b>Probability</b>	Low	Unknown
<b>Significance</b>	Low to none	Low
<b>Status</b>	Low	Unknown
<b>Confidence</b>	High	High

### 4. Required and Recommended Mitigation Measures

The following measures are required:

- In the event that earthmoving activities expose archaeological materials, such activities must stop and Heritage Western Cape must be notified immediately.
- Unmarked human burials may occur anywhere in the landscape and are often exposed during earthmoving activities. Human remains are protected by law and, if older than 60

years, are dealt with by the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

It is recommended that:

- Part time archaeological monitoring of earthmoving activities be conducted by a professional archaeologist at the start of construction and then periodically during the construction phase(s) of development.
- If archaeological materials are exposed through earthmoving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer(s) and/or property owner(s).

**Figures and Plates** (on following pages)

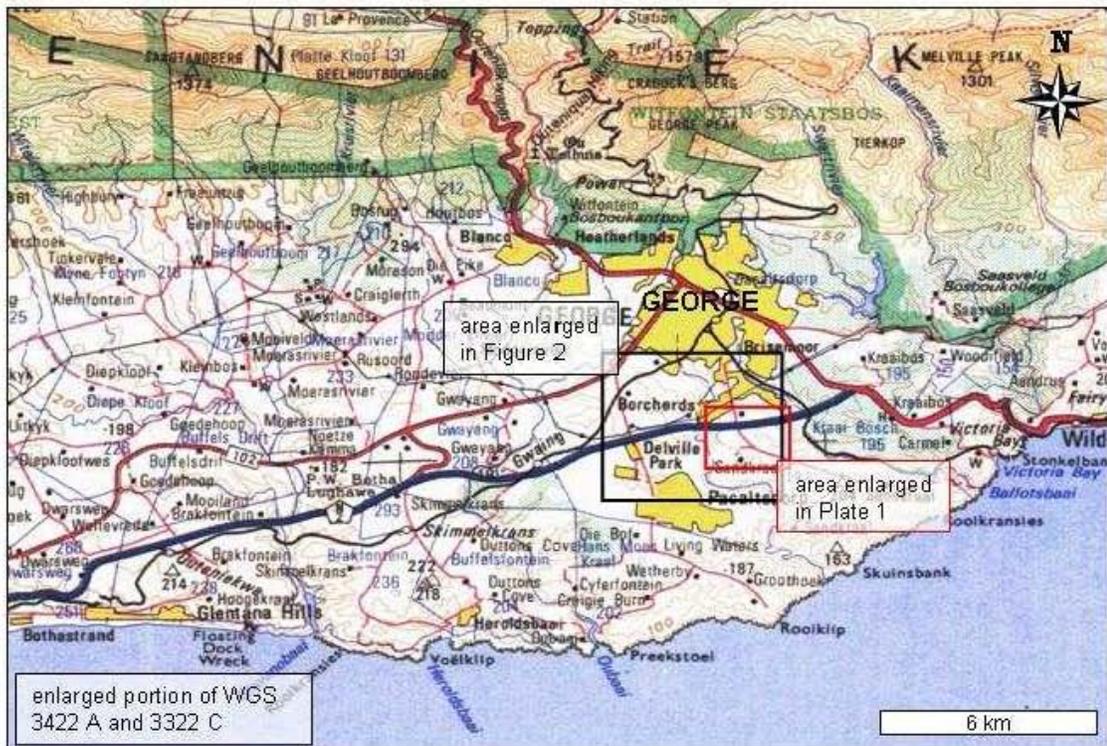


Figure 1. General location of Thembaletu and the study area – framed with black (see Figure 2) and red lines (see Plate 1) - relative to George, Western Cape Province.

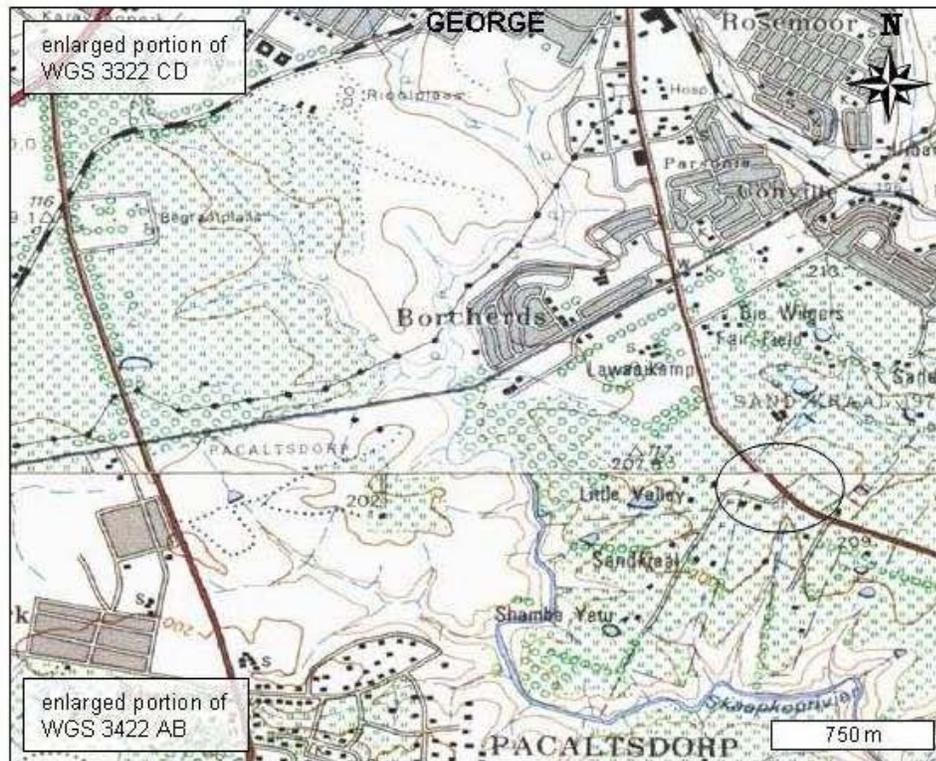


Figure 2. Enlarged area as indicated in Figure 1 showing the general location of the study area south of George (black oval). Note that the N2 is not mapped and these maps were obtained in 2006.



Plate 1. Enlarged area as indicated in with red in Figure 1 showing the location of the study area.

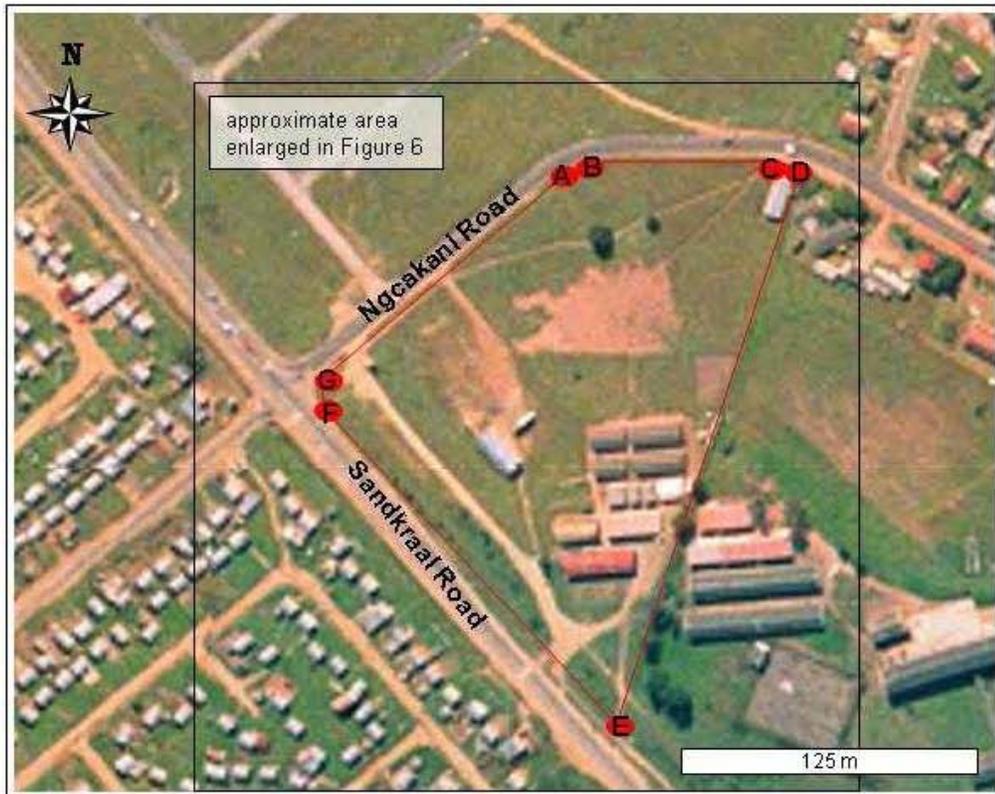
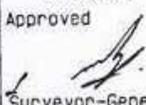


Plate 2. Enlarged area as indicated in Plate 1 showing the boundary points and outline of the study area in red. Views of study area from boundary points are shown in Plates 3 and 4). Coordinate data for boundary points as indicated with red dots and letters a through g are given in the text of this report.

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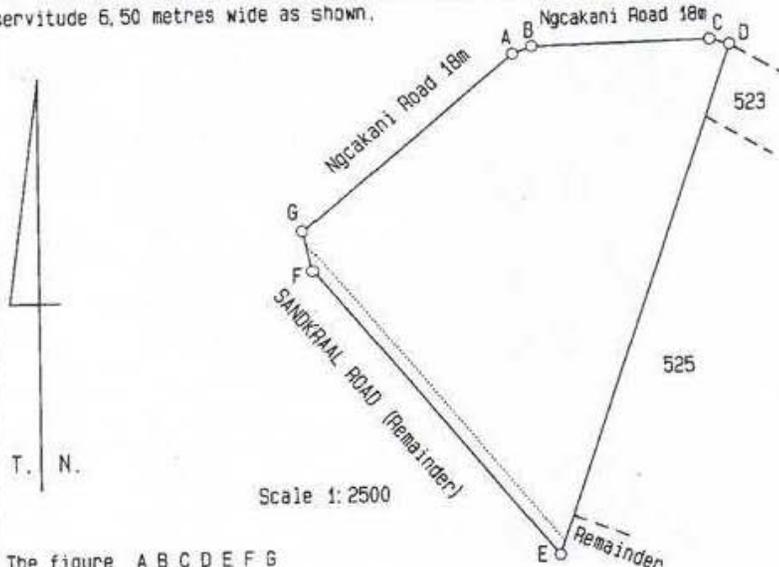
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	Constants	+	0,00	+3 700 000,00	374/2001
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BC 83,00	268 26 00	B	+ 48 082,07	+ 63 693,44	
CD 9,60	284 40 30	C	+ 47 999,10	+ 63 691,17	
DE 253,47	18 43 20	D	+ 47 989,81	+ 63 693,61	
EF 176,99	140 12 40	E	+ 48 071,17	+ 63 933,67	
FG 19,03	166 30 50	F	+ 48 184,44	+ 63 797,67	
GA 128,00	229 57 00	G	+ 48 188,88	+ 63 779,16	
	⊕ 40CD25		+ 48 607,41	+ 62 619,24	
	⊕ 57CD25		+ 48 432,71	+ 63 377,49	

**BEACONS:**

All beacons are 12mm iron peg

**Servitude Note:**

The line E F represents the south western boundary of a water pipeline servitude 6,50 metres wide as shown.



The figure A B C D E F G represents 2,5435 hectares of land being ERF 7524 a PORTION OF ERF 1821, TYOLORA situate in the Municipality and Administrative District of George Province Western Cape Surveyed in November 2000

by me *A.LOUW* (PLS0356) Professional Land Surveyor

This diagram is annexed to No. Datedeer i.f.o.	The original diagram is No. B606/B4 Transfer No. CCT 6167/86	File No. Geor. 197 S.R. No. E126/2001 Comp. AL-1888 (5485) BL-700/25 (1761)
Registrar of Deeds		

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DATE 1 JANUARY 2001

Figure 3. Surveyor's diagram with coordinates and survey data of the affected property as obtained from Dirisana Environmental and Ecological Consultants..



Figure 4. Layout plan of the proposed development as obtained from Dirisana Environmental and Ecological Consultants.



Figure 5. Schematic architect's sketch of the proposed development viewed from the south south west as obtained from Dirisana Environmental and Ecological Consultants.

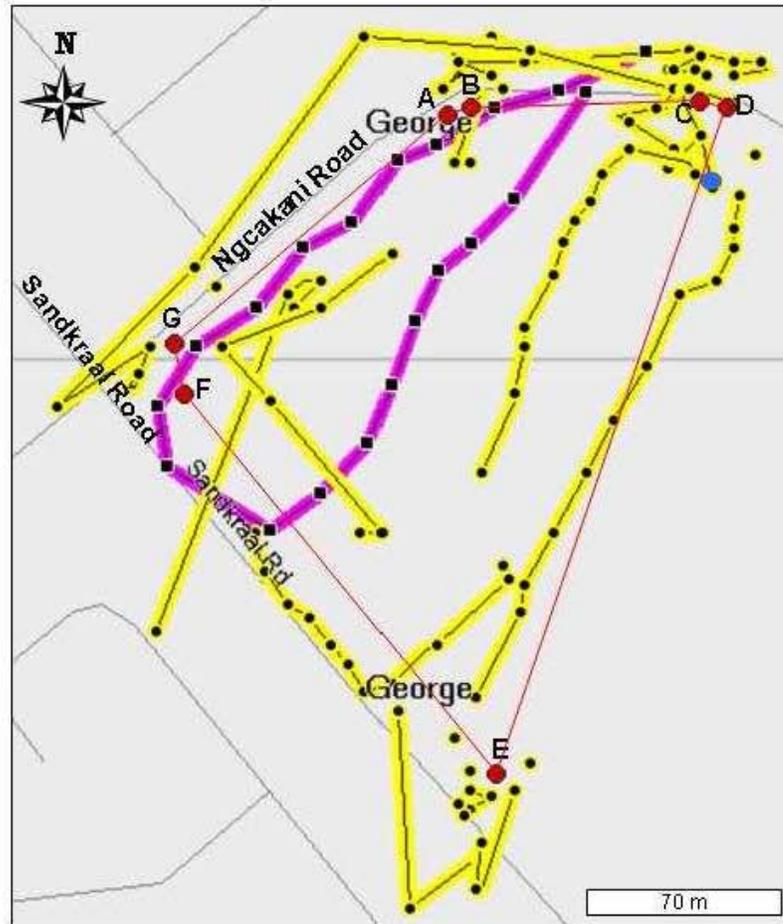


Figure 6. Area enlarged as indicated in Plate 2 showing walk tracks in yellow and purple (fixed with hand-held GPS), property boundary points with labelled red dots and red lines, as well as a borrow pit with exposed profiles indicated with a blue dot (see Plate 7; produced with Garmin - MapSource).



Plate 3. Panoramic views of study area as seen from boundary points A/B and C/D, top and bottom respectively (see Plate 2). Winston Manginda at left for scale (bottom image). The existing nursery school is indicated by the green oval (also see Plate 4).

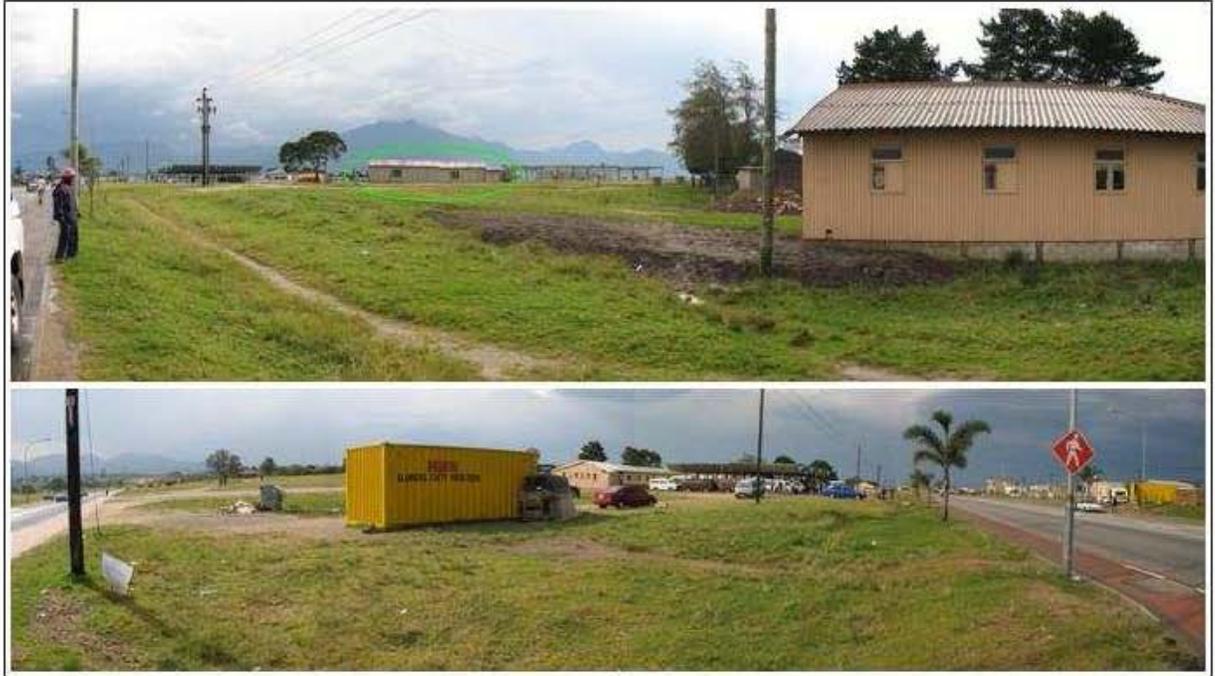


Plate 4. Panoramic views of study area as seen from boundary points E and F/G - top and bottom respectively (see Plate 2). Winston Manginda at left for scale (top image).



Plate 5. In addition to roads and the built environment, the above are examples of evidence for significant disturbance of sediments in the study area.



Plate 6. Dense grass cover shown in top left image, and other images show examples of exposures and clearings allowing good visibility of ground surfaces.



Plate 7. Borrow pit with exposed profiles showing layers of – lower to upper - ferruginous sediments (with centimetre sized ferruginous nodules), clay and topsoil (see Figure 6; also see ferruginous nodules at the surface in Plate 6 - middle right image).

## APPENDIX A

***Details are verbatim from the form “Notice of Intent to Develop” (NID) prepared by Heritage Western Cape.***

Cultural significance means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

Heritage resource means any place or object of cultural significance.

"Place" includes –

- (a) a site, area or region;
- (b) a building or other structure which may include equipment, furniture, fittings and other articles associated with or connected with such building or other structure;
- (c) a group of buildings or other structures [and associated equipment, fittings, etc];
- (d) an open space, including a public square, street or park; and
- (e) in relation to the management of a place, includes the immediate surroundings.

Archaeological means —

- (a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
- (b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa or in the maritime zone of the Republic, any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which Heritage Western Cape considers to be worthy of conservation; and
- (d) features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Palaeontological means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

Public monuments and memorials means all monuments and memorials –

- (a) erected on land belonging to any branch of ... government or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government; or
- (b) which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.

Living heritage means the intangible aspects of inherited culture, and may include cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships.