
PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT,
PORTION 4 OF THE FARM JACOBSZ-BERG 150,
ROSENDAL, FICKSBURG DISTRICT, FREE STATE, SOUTH AFRICA**

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EXECUTIVE SUMMARY

TERMS OF REFERENCE

Development Location: The proposed De Witteberg Mountain Resort Development will be located on the approximate 350ha property Portion 4 of the Farm Jacobsz-Berg 150 (Monte Carlo), Rosendal, Ficksburg District, Free State, South Africa.

Development Proposal: The developer proposes to develop a conservation *cum* residential project comprising a secure though rural, low-density residential estate of approximately 60-80 units and a small, upmarket signature hotel consisting of approximately 12 rooms. The development will include paved roads and walkways for residents to enjoy the scenic beauty of the area. Limited game will be introduced and existing dams developed to accommodate recreational fly-fishing.

THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

Methodology: The Phase 1 AIA was conducted over a 3 day period (2007-12-19 to 2007-12-21) by one archaeologist and one assistant. The assessment was done by foot and off-road vehicle (200cc quad) and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. Sub-surface interpretations were based on assessment of exposed erosion and road sections and disturbance caused by agricultural activities. GPS co-ordinates were taken with a Garmin e-Trex Vista GPS (Datum: WGS84). Photographic documentation was done with a Casio X-S2 Exilim camera. A combination of Garmap and Google Earth software was used in the display of spatial information. Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

Summary: Five archaeological and cultural heritage resources were identified during the Phase 1 AIA. The resources can briefly be summarised as:

1. Site 1 - DW1CR - Contemporary Cultural Heritage Resource;
 2. Site 2 - DW2CR - Contemporary Cultural Heritage Resource;
 3. Site 3 - DW1HR - Historic / Colonial Period Resource;
 4. Site 4 - DW1SA - Later Stone Age Archaeological Site (associated with recorded localities DW2SA; DW3SA; DW4SA and DW5SA); and
 5. Site 5 - DW6SA - Later Stone Age Archaeological Site.
- Sites 1 & 2 comprise of contemporary cultural heritage resources of no contemporary sensitivity or significance; the sites are not formally protected under the NHRA 1999.
 - The sandstone residence, pre-dating 60 years of age and comprising a portion of Site 3 is formally protected under the NHRA 1999. The remainder of Site 3 including associated outbuildings and farming infrastructure is not formally protected under the NHRA 1999. Destruction / alteration of the remainder of Site 3 is not subject to SAHRA approval.
 - Site 4, a formally protected LSA archaeological resource, will directly be impacted on by the northern residential cluster as well as by the access road leading to the northern and southern residential clusters. In accordance with the NHRA 1999 management of the resource may entail site conservation or Phase 2 archaeological mitigation preceding development.
 - Site 5 comprise of a formally protected LSA archaeological resource. The site will be conserved in accordance with the current development layout.

RECOMMENDATIONS

The De Witteberg Mountain Resort Development will impact on cultural heritage resources as defined and protected by the NHRA 1999. *It is recommended that development proceed provided the developer complies with the following recommendations:*

MC	SITE	CO-ORDINATES	TYPE	PERIOD	DESCRIPTION	IMPACT	RECOMMENDATIONS
THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT (LOCATED ARCHAEOLOGICAL AND CULTURAL HERITAGE SITES)							
DW1CR	Site 1	S28°35'27.7"; E27°59'08.8"	Contemporary	N/A	Village	High	Destruction No SAHRA / FSHRA approval required
DW2CR	Site 2	S28°35'09.1"; E27°58'28.2"	Contemporary	N/A	Residence	High	Destruction No SAHRA / FSHRA approval required
DW1HR	Site 3	S28°35'15.2"; E27°58'47.9"	Archaeological	Historic	Residence	High – Med	Destruction FSHRA permit; OR Alteration FSHRA permit
DW1SA	Site 4	S28°34'57.7"; E27°59'29.1" (See site extent co-ordinates)	Archaeological	Later Stone Age (LSA)	Knapping site	High – Med	Mitigation SAHRA permit; OR Conservation No development – Relocation of the northern residential cluster and access road
DW6SA	Site 5	S28°35'53.9"; E27°59'32.1" (See site extent co-ordinates)	Archaeological	Later Stone Age (LSA)	Knapping site	None	Conservation No development – In accordance with development layout

Compliance Requirements during the Construction Phase: The developer should ensure that heritage related information is communicated to all contractors and sub-contractors, inclusive of the localities of identified sites and related SAHRA and FSHRA recommendations thereto.

Impact on formally protected sites may only be permitted under formal SAHRA / FSHRA *Excavation / Destruction / Alteration Permits*.

Should any cultural heritages resources, not reported on in this report be encountered during the course of development, both on the surface or sub-surface, the developer should ensure that operation in the immediately vicinity be ceased and the find be reported to SAHRA / ASAPA accredited CRM archaeologist.

Post Construction Compliance Requirements: Should any cultural heritage resources, as described above, be reported on by either residents or visitors to the De Witteberg Mountain Resort the developer / management should report the find to SAHRA / ASAPA accredited CRM archaeologist / National Museum, Bloemfontein.

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1) TERMS OF REFERENCE

Environmental Impact Management Services (EIMS) have been appointed by the landowner and developer, Charl Cornelissen, to direct the Environmental Impact Assessment (EIA) in terms of the National Environmental Management Act, Act 107 of 1998 (NEMA), for the proposed De Witteberg Mountain Resort Development. ArchaeoMaps have been sub-contracted by EIMS to conduct the Archaeological Impact Assessment (AIA) in terms of the National Heritage Resources Act, Act 25 of 1999 (NHRA), as specialist sub-section to the EIA.

1.1) DEVELOPMENT LOCATION

The proposed De Witteberg Mountain Resort Development will be located on the approximate 350ha property Portion 4 of the Farm Jacobsz-Berg 150, generally known as the Farm Monte Carlo, located approximately 11km south-south-east (SSE) of Rosendal in the Ficksburg District, Free State, South Africa [1:50;000 map ref: 2728DB] (EIMS 2007).

1.2) DEVELOPMENT PROPOSAL

The developer proposes to develop a conservation *cum* residential project comprising a secure though rural, low-density residential estate of approximately 60-80 units and a small, upmarket signature hotel consisting of approximately 12 rooms. The development will include paved roads and walkways for residents to enjoy the scenic beauty of the area. Limited game will be introduced and existing dams developed to accommodate recreational fly-fishing (EIMS 2007).

The current development proposal includes all associated linear development inclusive of pipelines, powerlines, sewerage, telecommunication etc.

Current development plans aim to minimise visual impact of the development on the natural milieu.

1.3) DEVELOPMENT IMPACT

The nucleus of the residential portion of the proposed De Witteberg Mountain Resort Development will be located towards the central and south-eastern (SE) portion of the development area. Residential and associated linear development impact will be total; resulting in the loss of all surface and sub-surface cultural heritage resources, as defined and protected under the NHRA 1999, to the approximate depth of impact.

The remainder of the development, focusing on the conservation of the natural environment and the introduction of game, will comprise of a low impact development with expected limited impact on surface and sub-surface cultural heritage resources as defined and protected by the NHRA 1999. The highest impact associated with the conservation aspect of the proposed De Witteberg Mountain Resort Development will be restricted to the construction of walkways, the exact routings of which are as yet undefined.



Figure 1: Rosendal, Free State, South Africa

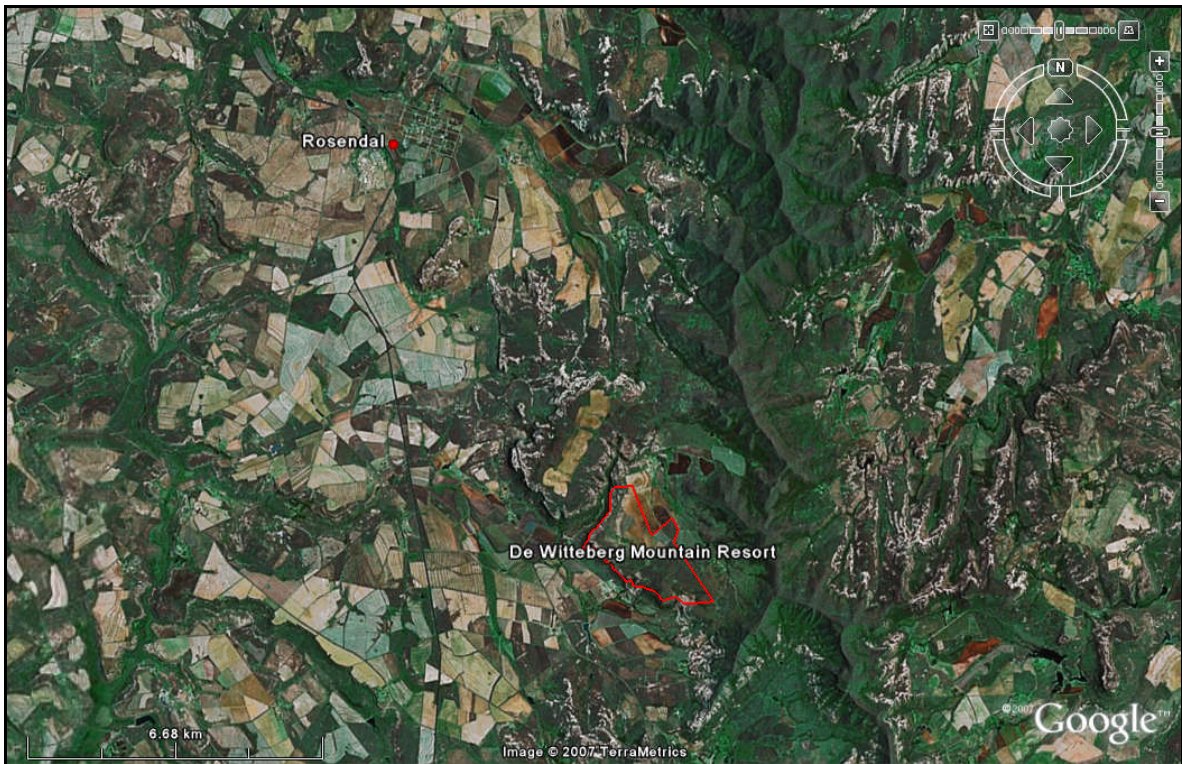


Figure 2: Location of the proposed De Witteberg Mountain Resort Development in relation to Rosendal



Figure 3: The proposed De Witteberg Mountain Resort Development area

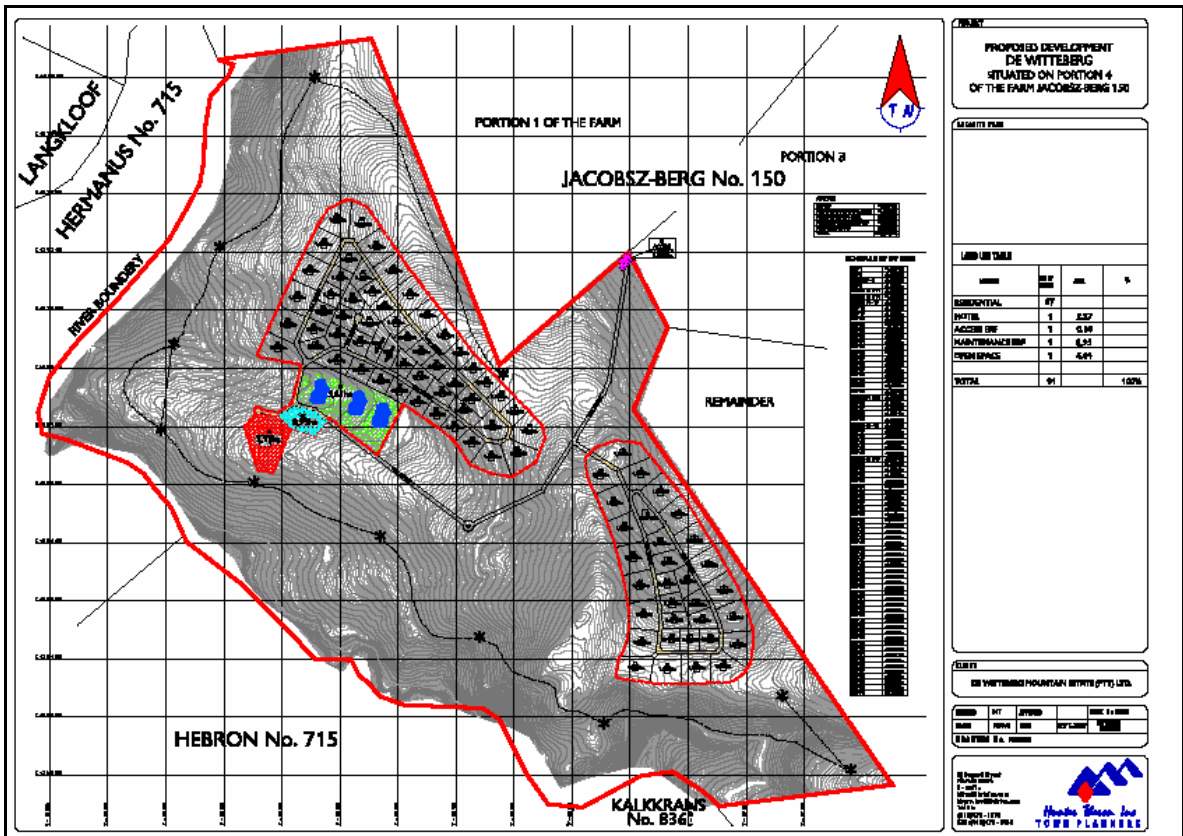


Figure 4: The proposed De Witteberg Mountain Resort Development layout

2) ARCHAEOLOGICAL AND HERITAGE LEGISLATIVE COMPLIANCE

Cultural property can be defined as sites having palaeontological, archaeological (pre-historic), historical, religious and unique natural values, encompassing thus both sites of anthropic and natural origin (WB OPN 11.3). These cultural resources are non-renewable and the loss thereof or damage thereto irreversible. In South Africa cultural property is protected under the NEMA 1998 and the NHRA 1999. Both pieces of legislation make provision for the protection and management of cultural property through the EIA process, compulsory to any major development including 'the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; the construction of a bridge or similar structure exceeding 50m in length; any development or other activity which will change the character of a site including developments exceeding 0.5ha in extent; or involving three or more existing erven or subdivisions thereof; or three or more erven or subdivisions thereof which have been consolidated within the past five years and the rezoning of a site exceeding 1ha in extent' (section 38 of the NHRA 1999).

Section 38 of the NHRA 1999 provides for Heritage Impact Assessments (HIA's) to assess the potential effects and provide mitigation or management recommendations of planned development activities on South Africa's cultural property prior to development. A HIA may comprise of the following sub-sections, particular portions of which may be required for particular developments:

1. Archaeological Impact Assessment (AIA);
2. Palaeontological Impact Assessment (PIA); and
3. Living Heritage Impact Assessment (LhIA).

HIA's or the requested sub-components thereof should be submitted, as specialist sub-sections to the EIA, to the South African Heritage Resources Agency (SAHRA) for evaluation.

SAHRA accepts AIA reports authored by SAHRA listed Association of Southern African Professional Archaeologist (ASAPA) accredited Cultural Resources Management (CRM) practitioners.

The management and evaluation of a particular development project's associated archaeological process and requirements is largely dependent on the archaeological sensitivity of the particular project, basic guidelines are provided by SAHRA. Limited SAHRA functions are divulged to provincial level and managed by the particular provinces' Provincial Heritage Resources Agency (PHRA); in the case of the Free State by the Free State Heritage Resources Agency (FSHRA).

In addition to the AIA SAHRA may request a PIA or Letter of Recommendation (LoR) as specialist component to the HIA for a particular development. SAHRA accepts PIA's authored by professional palaeontologists accredited with SAHRA.

Sensitivities relating to living heritage sites are as a norm identified during the AIA or Social Impact Assessment (SIA) of a particular development. In addition to the AIA or SIA SAHRA may request a LhIA as specialist component to the HIA.

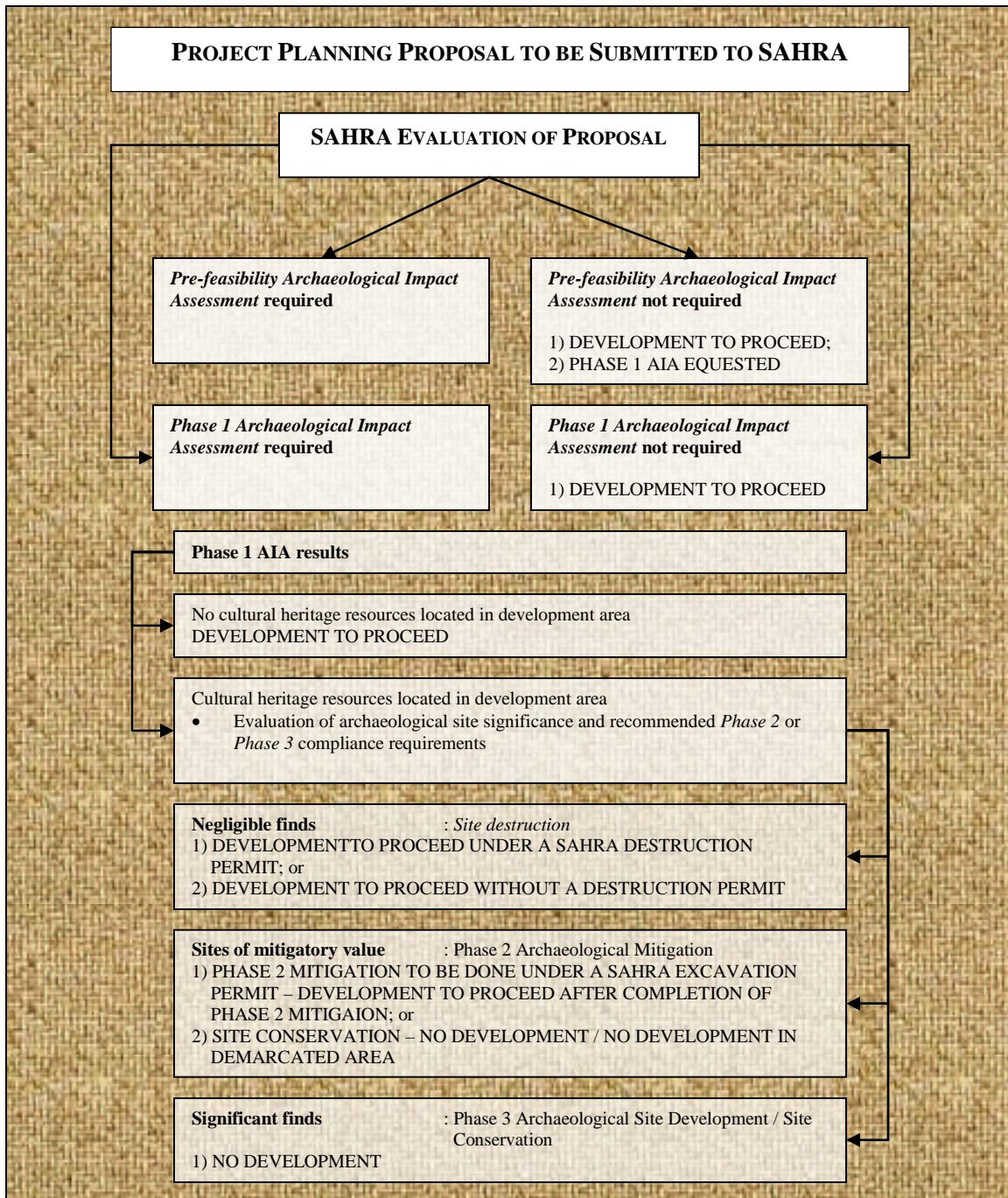


Figure 5: The SAHRA HIA / AIA evaluation process

2.1) THE BASICS OF ARCHAEOLOGICAL IMPACT ASSESSMENTS

Archaeological survey or reconnaissance can be defined as the systematic process of discovery, location (and identification) of archaeological sites (Sharer & Ashmore 1979). By definition reconnaissance incorporates the investigation of old documents and photographs, maps, previous reports and publications in order to learn as much as possible about a particular area before field survey starts (McIntosh 1999). This stage of reconnaissance is often referred to as the *Pre-feasibility Assessment*.

Phase 1 Archaeological Impact Assessments (also termed surface survey or field reconnaissance) are based on visual inspection at ground level (Sharer & Ashmore 1979). Two basic approaches exist, namely total and sample coverage:

1. Total coverage, always the preferable method, aims for total coverage of the data universe. The practicality of total coverage depends largely on the methods used. Total or near total coverage has been achieved by combining ground based and aerial reconnaissance techniques. The feasibility of total coverage may be affected by time and cost constraints, unsuitable environmental or political conditions, or the reconnaissance methods chosen.
2. When total reconnaissance is not possible sample areas can be selected by means of either probabilistic methods (statistical manipulations based upon probability theory, a method only accurate within a certain tolerance range) or non-probabilistic methods (random sampling) (Greene 1996).

Defined areas are covered systematically. Encountered sites, features and artefacts may be recorded *in situ*. Alternatively artefacts may be collected, photographically documented and left on site, or they may be removed (in South Africa under a SAHRA *Collections Permit*) and deposited at the relevant repository (McIntosh 1999).

Artefacts encountered in the field may comprise of stone tools and knapping debris, ceramic, porcelain, earthenware and glass sherds, mineral slag, bone, metal objects, structure remains including foundations and building material ranging from *daga* to branch and brick, associated occupation middens, stock enclosure remains including vetrified dung etc. Dense concentrations of artefacts may suggest an occupation site; isolated pieces need to be considered more carefully. Encountered artefacts are preliminary classified to identify the sites.

Vegetation change may also be indicative of former occupation. Variations in the colour of soil and the luxuriance, line, type and number of species of vegetation may all be a result of former anthropic disturbance of the natural environment (Renfrew & Bahn 1996; Sharer & Ashmore 1979).

Located sites are labelled, with numbers running in consecutive series generally being the easiest. The purpose of labelling sites is to tie locational data with other information; physical descriptions of remains, surface collections taken, drawings, maps, photographs and future excavations (Greene 1996).

The location of encountered sites is recorded to relate the new finds to their spatial setting. This can be done by a variety of technical procedures and methods, Geographic Positioning Systems (GPS) being the most common method used today (McIntosh 1999). Hereafter field plots are transferred to a base map to provide a complete record of the reconnaissance. The base map often serves to represent a larger area on which overall progress can be gauged and emergent distributional patterns examined. Identification of and the plotting of sites further allows the archaeologist to compare anomalies noted during the *Pre-feasibility Assessment* and in making recommendations regarding future excavation or conservation (Greene 1996; Renfrew & Bahn 1996), in Cultural Resources Management (CRM) terms referred to as *Phase 2 Archaeological Mitigation* (excavation) or *Phase 3 Site Management*.

3) THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT: PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

The Phase 1 AIA aimed to locate, identify and assess the significance of cultural heritage resources, inclusive of archaeological deposits / sites, built structures older than 60 years, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict and cultural landscapes or views as defined and protected by the NHRA 1999.

Palaeontological deposits / sites as defined and protected by the NHRA 1999 are not included as subject to this report.

3.1) METHODOLOGY

The Phase 1 AIA was conducted over a 3 day period (2007-12-19 to 2007-12-21) by one archaeologist and one assistant. The assessment was done by foot and off-road vehicle (200cc quad) and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. Sub-surface interpretations were based on assessment of exposed erosion and road sections and disturbance caused by agricultural activities.

Visibility was reasonably good across the development area, but was evidently affected by high rainfall prior to the assessment.

GPS co-ordinates were taken with a Garmin e-Trex Vista GPS (Datum: WGS84). Photographic documentation was done with a Casio X-S2 Exilim camera. A combination of Garmap and Google Earth software was used in the display of spatial information.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

SITE SIGNIFICANCE	FIELD RATING	GRADE	RECOMMENDED MITIGATION
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	Site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	-	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	-	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	-	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

Table 1: Cultural heritage site significance assessment and mitigation recommendations

3.2) COVERAGE AND GAP ANALYSIS

The Phase 1 AIA covered the approximate 350ha Portion 4 of the Farm Jacobsz-Berg 150 (Monte Carlo) development area. The assessment thus covered the total of the proposed development area inclusive of the residential and conservation aspects thereof.

3.3) PHASE 1 AIA ASSESSMENT FINDINGS

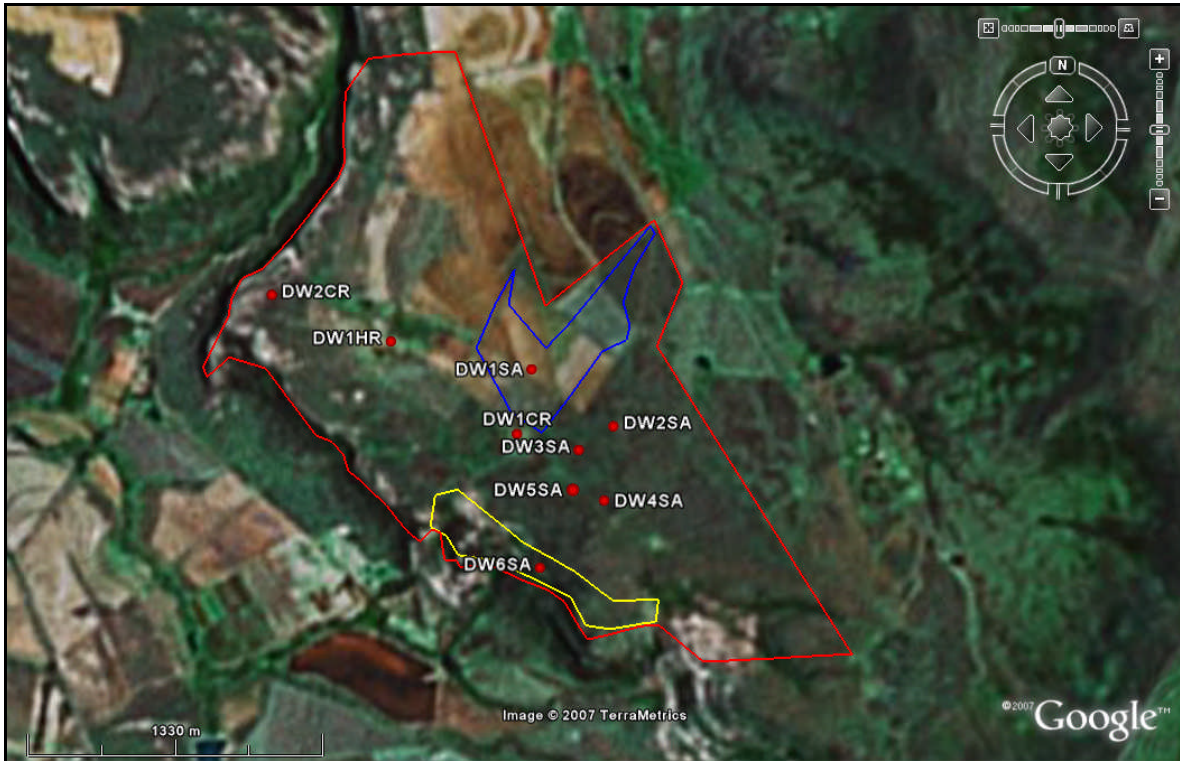


Figure 6: The De Witteberg Mountain Resort Development: Spatial display of AIA findings

Five archaeological and cultural heritage resources were identified during the approximate 350ha Phase 1 AIA of Portion 4 of the Farm Jacobsz-Berg 150 (Monte Carlo). The resources can briefly be summarised as:

1. Site 1 - DW1CR - Contemporary Cultural Heritage Resource;
2. Site 2 - DW2CR - Contemporary Cultural Heritage Resource;
3. Site 3 - DW1HR - Historic / Colonial Period Resource;
4. Site 4 - DW1SA - Later Stone Age Archaeological Site (associated with recorded localities DW2SA; DW3SA; DW4SA and DW5SA); and
5. Site 5 - DW6SA - Later Stone Age Archaeological Site.

Of the identified resources Sites 1 & 2, both contemporary cultural heritage resources of no contemporary sensitivity, do not constitute archaeological or cultural heritage resources as defined and protected under the NHRA 1999.

A portion of Site 3, the historic sandstone residence, pre-dating 60 years of age and Sites 4 & 5, both Later Stone Age (LSA) archaeological sites, are formally protected under the NHRA 1999.

Formally protected sites thus fall into two categories, namely the Historic / Colonial period and the Stone Age; concised backgrounds to the particular periods are provided below for reference.

Individual site descriptions are provided in Section 3.3.1) Site Descriptions.

The southern African cultural environment is divided into the Stone Age, the Iron Age and the Historical / Colonial Period. This cultural division has a rough temporal association beginning with the Stone Age, followed by the Iron Age and the Historical Period. The cultural division is based on the identified primary technology used. The hunter-gatherer lifestyle of the Stone Age is identified in the archaeological record through stone being the primary raw material used to produce tools. Iron Age people, known for their skill to work iron and other metal, also practiced agriculture and animal husbandry. Kingships and civilizations associated with the Iron Age are indicative of a complex social hierarchy. The Historical Period is marked by the advent of writing, in southern Africa primarily associated with the first European travelers (Mitchell 2002). During the latter part of the Later Stone Age (LSA) hunter-gatherers shared the cultural landscape with both pastoralists and Early Iron Age people, while the advent of the Historical period in southern Africa is marked by a complex association of people, including LSA hunter-gatherers, Later Iron Age people and colonial occupation (Lane & Reid 1998).

○ THE STONE AGE

The Stone Age is divided into the Earlier (ESA), Middle (MSA) and Later Stone Age (LSA) and refers to the cultures of the earliest people of southern Africa who mainly relied on stone for tool production.

- 1) The ESA may well date back to approximately 2Mya (Millions of years ago) and lasted until 500-250kya (thousand of years ago) (Mitchell 2002). The ESA is characteristically divided into the earlier Oldowan and the later Acheulean Complexes, focusing primarily on core and flake technology. In southern Africa, a single assemblage at Sterkfontein Cave, South Africa, represents the Oldowan. The geographically widespread Acheulean is identified by handaxes and cleavers as prime lithic *fossils directeurs* (Sampson 1974).
- 2) MSA (500/250kya to 40/27-23kya) lithic assemblage *fossils directeurs* include blade and flake technology, often in association with prepared platforms. Formal tools include retouched points, blades, segments, knives and a variety of scraper forms (Mitchell 2002; Sampson 1974).
- 3) LSA (40/27-23kya to the early 19th Century) deposits comprise of macro- and microlithic Industries. Composite tool production is a feature particularly of microlithic Industries. The LSA is further associated with symbolic human behavior, including jewelry and formal burial of the dead. Paintings and engravings are often associated with LSA San hunter-gatherer communities (Mitchell 2002; Sampson 1974).

Stone Age economy, initially based on opportunistic scavenging, is generally associated with a hunter-gatherer way of life. People of the Stone Age collected wild plants, birds' eggs, tortoises and insects; they killed small animals like hares, and hunted larger ones like antelope. By 600kya and probably from earlier on they could communicate by means of at least a rudimentary form of language and use fire. By 200kya they have discovered the technique of mounting stone points on sticks for use as spears. From around 10kya they hunted with bows and arrows, made many forms of jewelry from eggshell and bone and engraved and painted images of animals and designs on rock (Mitchell 2002; Sampson 1974).

○ THE HISTORIC PERIOD

In the 15th Century Admiral Zheng He and his subordinates impressed the power of the Ming Dynasty rulers in a series of voyages as far afield as Java, Sri Lanka, southern Arabia and along the East African coast, collecting exotic animals *en route*. But nothing more came of his expeditions and China never pursued opportunities for trade or colonisation (Mote 1991).

Portuguese maritime expansion began around the time of Zheng He's voyages; motivated by a desire to establish a sea route to the riches of the Far East. By 1485 Diogo Cão had reached Cape Cross, 3 years later Bartolomeu Dias rounded the Cape of Good Hope and less than a decade later Vasco da Gama called at several places along South Africa's coast, trading with Khoekhoen at Mossel Bay before reaching Mozambique and crossing the ocean to India. In Africa Portuguese interest was focussed on seizing important coastal trading towns such as Sofala and gaining access to the gold of Zimbabwe. Following the 1510 Portuguese-Khoekhoen battle at Table Bay Portuguese ships ceased to call along the South African coast (Elphick 1985).

By the late 1500's Portuguese supremacy of the Indian Ocean was threatened. From 1591 numerous Dutch and English ships called at Table Bay and in 1652 the Dutch East India Company (VOC) established a permanent base, with the intent to provide fresh food and water to VOC ships. In an attempt to improve the food supply a few settlers (freeburghers) were allowed to establish farms. The establishment of an intensive mixed farming economy failed due to shortages of capital and labour, and freeburghers turned to wheat cultivation and livestock farming. While the population grew slowly the area of settlement expanded rapidly with new administrative centres established at Stellenbosch (1676), Swellendam (1743) and Graaf-Reinet (1785). By the 1690's the Colony's frontier was too long to be effectively policed by VOC officials (Elphick 1985).

From the 1700's many settlers expanded inland over the Cape Fold Mountain Belt. The high cost of overland transport constrained the ability to sell their produce while settlement of the interior was increasingly made difficult by resident KhoiSan groups, contributing due to a lack of VOC military support to growing Company opposition in the years before British control of the Cape (1795 / 1806) (Davenport & Saunders 2000).

In 1820 a major British settlement was implanted on the eastern frontier of the Cape Colony, resulting in large numbers of the community moving into the interior, initially to KwaZulu-Natal, and then after Britain annexed Natal (1843), further into the interior to beyond the Vaal River. Disruptions of the *Mfecane* eased their takeover of African lands and the *Boers* (Afrikaners) established several republics (Davenport & Saunders 2000).

The 2nd South African War / Anglo-Boer War (1889-1902) was almost inevitable after the Afrikaners discovered gold at the Witwatersrand (in the old Transvaal Republic), a territory the British had given them after the 1st South African War (1880-1881). British interest in a share of the gold as well as it being dealt on the London bullion market grew steadily. The British also feared that gold would make the Afrikaners wealthy and with their potential German allies they could threaten other British territories in southern Africa (Pakenham 1993).

By January 1900 the Afrikaners had beaten the British at four battles and had Ladysmith, Kimberley and Mafikeng under siege. A new British command under Roberts and his chief of staff Kitchener reversed the defeats and relieved the besieged towns and garrisons but the Afrikaners continued a successful guerrilla war. Kitchener applied a scorched earth policy resulting in the Afrikaners and other locals having no cover and no food. In addition the British set up some 50 concentration camps. Altogether more than 26,000 women and children died in the camps (Pakenham 1993).

The perimeters of Sites 1, 2 & 3 are relatively well defined, with Sites' 3 perimeters being demarcated by *ad hoc* additions to the farmstead inclusive of relating farming infrastructure. All 3 sites are surface sites.

Site 4 constitutes a sub-surface site, with encountered deposits being located at varying depths ranging between 7-25cm below the present day surface. The site extent, as indicated in Figure 6 (blue outline), is the result of exposed deposits due to contemporary farming activities and related access road cuttings. The southern border of the sites' extent largely follows the existing access road. The eastern, western and northern site boundary has been identified within agricultural fields where sub-surface deposits were exposed as a result of ploughing; the indicated site extent thus reflects recorded artefact exposures due to disturbance as reflected particularly in the eastern site demarcation where virgin land, with no recorded anthropic component directly borders ploughed fields in which sub-surface deposits are exposed. The northern and eastern borders of the sites' extent are based on a decrease in artefact ratios, associated directly with a decrease in siliceous raw material. Boundary lines may thus well reflect a dip in the artefact layer, underlying disturbances caused by agricultural activities. Sections of up to 50cm exposed approximately 400m west of the recorded site extent proved to be anthropically sterile, while no artefacts were observed in deposits adjacent to the northern cliff face or development area boundary. The southern border of the site is expected to continue further south than recorded as indicated by observances at recorded localities DW2SA, DW3SA, DW4SA and DW5SA, inferred to reflect *in situ* exposed deposits associated directly with Site 4. Alternatively exposures may be interpreted as continuous sub-surface deposits / anthropic lenses linking the indicated Site 4 boundary directly with recorded Site 5 deposits.

Site 5's boundary line, as indicated in Figure 6 (yellow outline), demarcates artefact distribution as artefacts are being eroded out of sub-surface deposits. Artefacts were not restricted to the demarcated area but were also observed in associated stream sections, albeit in much lower quantities and not within a clearly defined layer. The site 5 artefact occurrence may thus well be associated with continuous sub-surface deposits / anthropic lenses as exposed at recorded localities DW2SA, DW3SA, DW4SA and DW5SA.



Figure 7: General view of the south eastern portion of the De Witteberg Mountain Resort Development



Figure 8: General view of the western portion of the development area with a view of Site 1



Figure 9: General view of the agricultural fields characterizing the central part of the development area



Figure 10: General view of the central and north-central part of the proposed De Witteberg Mountain Resort development area



Figure 11: Agricultural fields typifying the southern portion of the proposed development area



Figure 12: The western boundary of the development area. The cliff / slope does not form part of the proposed development area



Figure 13: The often inaccessible western cliff-face as property boundary



Figure 14: View from the proposed De Witteberg Mountain Resort Development area towards the west

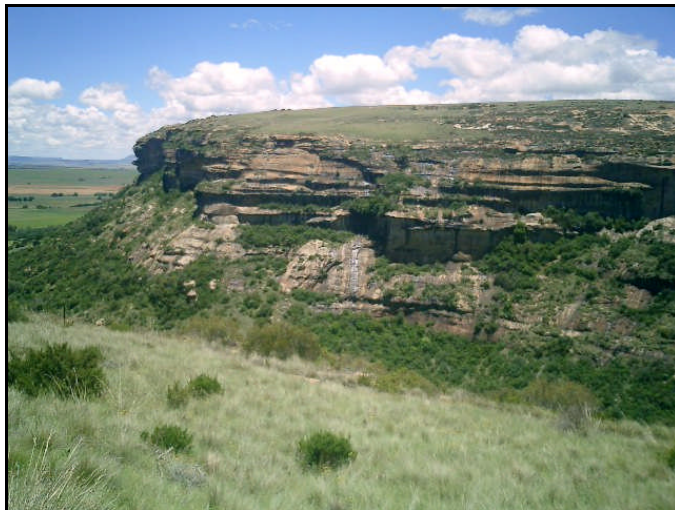


Figure 15: View from the northern boundary of the development area, demarcated by a gorge and opposing cliff face

MC	SITE	CO-ORDINATES	TYPE	PERIOD	DESCRIPTION	IMPACT	RECOMMENDATIONS
THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT (DEVELOPMENT AREA)							
01	-	S28°34'33.8"; E27°58'56.5"	-	-	-	-	-
02	-	S28°34'35.3"; E27°58'42.3"	-	-	-	-	-
03	-	S28°34'39.4"; E27°58'38.6"	-	-	-	-	-
04	-	S28°34'46.6"; E27°58'38.5"	-	-	-	-	-
05	-	S28°34'52.5"; E27°58'36.7"	-	-	-	-	-
06	-	S28°35'00.1"; E27°58'30.2"	-	-	-	-	-
07	-	S28°35'09.3"; E27°58'20.1"	-	-	-	-	-
08	-	S28°35'12.6"; E27°58'17.7"	-	-	-	-	-
09	-	S28°35'14.2"; E27°58'16.2"	-	-	-	-	-
10	-	S28°35'19.9"; E27°58'15.4"	-	-	-	-	-
11	-	S28°35'20.6"; E27°58'16.4"	-	-	-	-	-
12	-	S28°35'18.8"; E27°58'20.3"	-	-	-	-	-
13	-	S28°35'20.0"; E27°58'26.7"	-	-	-	-	-
14	-	S28°35'24.5"; E27°58'31.7"	-	-	-	-	-
15	-	S28°35'29.1"; E27°58'35.2"	-	-	-	-	-
16	-	S28°35'30.2"; E27°58'37.7"	-	-	-	-	-
17	-	S28°35'31.9"; E27°58'39.7"	-	-	-	-	-
18	-	S28°35'34.2"; E27°58'41.0"	-	-	-	-	-
19	-	S28°35'35.9"; E27°58'42.8"	-	-	-	-	-
20	-	S28°35'39.1"; E27°58'47.4"	-	-	-	-	-
21	-	S28°35'42.9"; E27°58'51.0"	-	-	-	-	-
22	-	S28°35'44.1"; E27°58'53.2"	-	-	-	-	-
23	-	S28°35'42.3"; E27°58'55.1"	-	-	-	-	-
24	-	S28°35'42.7"; E27°58'56.5"	-	-	-	-	-
25	-	S28°35'44.1"; E27°58'56.9"	-	-	-	-	-
26	-	S28°35'45.5"; E27°58'57.0"	-	-	-	-	-
27	-	S28°35'46.2"; E27°58'57.5"	-	-	-	-	-
28	-	S28°35'46.7"; E27°58'58.6"	-	-	-	-	-
29	-	S28°35'46.4"; E27°58'59.3"	-	-	-	-	-
30	-	S28°35'47.6"; E27°58'59.8"	-	-	-	-	-
31	-	S28°35'47.1"; E27°59'04.7"	-	-	-	-	-
32	-	S28°35'49.1"; E27°59'10.3"	-	-	-	-	-
33	-	S28°35'50.2"; E27°59'14.5"	-	-	-	-	-
34	-	S28°35'51.3"; E27°59'17.1"	-	-	-	-	-
35	-	S28°35'57.0"; E27°59'21.1"	-	-	-	-	-
36	-	S28°35'54.6"; E27°59'29.4"	-	-	-	-	-
37	-	S28°35'54.6"; E27°59'32.4"	-	-	-	-	-
38	-	S28°35'58.9"; E27°59'39.7"	-	-	-	-	-
39	-	S28°35'56.6"; E28°00'03.1"	-	-	-	-	-
40	-	S28°35'14.6"; E27°59'30.7"	-	-	-	-	-
41	-	S28°35'05.6"; E27°59'34.4"	-	-	-	-	-
42	-	S28°34'56.6"; E27°59'29.4"	-	-	-	-	-
43	-	S28°35'09.5"; E27°59'12.8"	-	-	-	-	-

Table 2: The De Witteberg Mountain Resort Development: Development area

MC	SITE	CO-ORDINATES	TYPE	PERIOD	DESCRIPTION	IMPACT	RECOMMENDATIONS
THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT (LOCATED ARCHAEOLOGICAL AND CULTURAL HERITAGE SITES)							
DW1CR	Site 1	S28°35'27.7"; E27°59'08.8"	Contemporary	N/A	Village	High	Destruction No SAHRA / FSHRA approval required
DW2CR	Site 2	S28°35'09.1"; E27°58'28.2"	Contemporary	N/A	Residence	High	Destruction No SAHRA / FSHRA approval required
DW1HR	Site 3	S28°35'15.2"; E27°58'47.9"	Archaeological	Historic	Residence	High – Med	Destruction FSHRA permit; OR Alteration FSHRA permit
DW1SA	Site 4	See site extent co-ordinates	Archaeological	Later Stone Age (LSA)	Knapping site	High – Med	Mitigation SAHRA permit; OR Conservation No development – Relocation of the northern residential cluster and access road
DW1.1SA	-	S28°34'57.7"; E27°59'29.1"	-	-	-	-	-
DW1.2SA	-	S28°34'58.8"; E27°59'29.8"	-	-	-	-	-
DW1.3SA	-	S28°35'03.8"; E27°59'26.6"	-	-	-	-	-
DW1.4SA	-	S28°35'08.7"; E27°59'25.1"	-	-	-	-	-
DW1.5SA	-	S28°35'12.0"; E27°59'26.3"	-	-	-	-	-
DW1.6SA	-	S28°35'13.9"; E27°59'25.8"	-	-	-	-	-
DW1.7SA	-	S28°35'15.7"; E27°59'22.1"	-	-	-	-	-
DW1.8SA	-	S28°35'22.1"; E27°59'17.1"	-	-	-	-	-
DW1.9SA	-	S28°35'27.4"; E27°59'12.7"	-	-	-	-	-
DW1.10SA	-	S28°35'27.4"; E27°59'07.5"	-	-	-	-	-
DW1.11SA	-	S28°35'15.8"; E27°59'01.8"	-	-	-	-	-
DW1.12SA	-	S28°35'09.5"; E27°59'04.5"	-	-	-	-	-
DW1.13SA	-	S28°35'04.7"; E27°59'07.5"	-	-	-	-	-
DW1.14SA	-	S28°35'09.4"; E27°59'06.7"	-	-	-	-	-
DW1.15SA	-	S28°35'15.5"; E27°59'12.8"	-	-	-	-	-
DW1.16SA	-	S28°35'11.7"; E27°59'16.6"	-	-	-	-	-
DW2SA	-	S28°35'26.1"; E27°59'24.2"	-	-	-	-	-
DW3SA	-	S28°35'29.6"; E27°59'18.8"	-	-	-	-	-
DW4SA	-	S28°35'36.5"; E27°59'23.1"	-	-	-	-	-
DW5SA	-	S28°35'35.2"; E27°59'18.1"	-	-	-	-	-
DW6SA	Site 5	See site extent co-ordinates	Archaeological	Later Stone Age (LSA)	Knapping site	None	Conservation No development – In accordance with development layout
DW6.1SA	-	S28°35'53.9"; E27°59'32.1"	-	-	-	-	-
DW6.2SA	-	S28°35'50.6"; E27°59'32.4"	-	-	-	-	-
DW6.3SA	-	S28°35'50.7"; E27°59'25.1"	-	-	-	-	-
DW6.4SA	-	S28°35'46.6"; E27°59'18.7"	-	-	-	-	-
DW6.5SA	-	S28°35'43.1"; E27°59'10.2"	-	-	-	-	-
DW6.6SA	-	S28°35'35.9"; E27°58'59.4"	-	-	-	-	-
DW6.7SA	-	S28°35'37.0"; E27°58'55.7"	-	-	-	-	-
DW6.8SA	-	S28°35'41.6"; E27°58'54.9"	-	-	-	-	-
DW6.9SA	-	S28°35'42.8"; E27°58'57.5"	-	-	-	-	-
DW6.10SA	-	S28°35'45.6"; E27°58'59.5"	-	-	-	-	-
DW6.11SA	-	S28°35'46.2"; E27°59'05.2"	-	-	-	-	-
DW6.12SA	-	S28°35'50.6"; E27°59'18.3"	-	-	-	-	-
DW6.13SA	-	S28°35'54.5"; E27°59'20.9"	-	-	-	-	-
DW6.14SA	-	S28°35'55.0"; E27°59'25.0"	-	-	-	-	-

Table 3: The De Witteberg Mountain Resort Development: Identified archaeological and cultural heritage resources and associated recommendations

3.3.1) SITE DESCRIPTIONS

3.3.1.1) SITE 1: DW1CR

CONTEMPORARY CULTURAL HERITAGE RESOURCE

- VILLAGE

- S28°35'27.7"; E27°59'08.8"

Site 1 (DW1CR) constitutes the existing farm workers' village. Individual units are constructed from natural and pre-fabricated material. The village does not resemble traditional layout of any indigenous South African group. The site post-dates 60 years of age and is by implication not protected under the NHRA 1999.

The site is situated in the central part of the proposed development area and will not, in accordance with the current development layout, be directly affected by the proposed development. Development will however require destruction of the site in order to retain the natural splendour of the area. Destruction of the site is not subject to SAHRA approval.



Figure 16: General view of Site 1, the contemporary farm workers' village



Figure 17: Close-up of selected residential units comprising Site 1

✂ ***SITE SIGNIFICANCE AND RECOMMENDATIONS:***

Site 1 (DW1CR) post-dates 60 years of age; the site is not formally protected under the NHRA 1999. The site is of no contemporary cultural heritage significance or sensitivity. No SAHRA *Site Significance* rating is thus applicable.

Destruction of Site 1 is not subject to SAHRA approval.

3.3.1.2) SITE 2: DW2CR

CONTEMPORARY CULTURAL HERITAGE RESOURCE
- RESIDENCE
- S28°35'09.1"; E27°58'28.2"

Site 2 (DW2CR) comprises of a single farm workers' residential unit. The residence is constructed from natural and pre-fabricated material in a non-traditional style. The site post-dates 60 years of age and is by implication not protected under the NHRA 1999.

The site is situated in the north western (NW) part of the proposed development area and will not, in accordance with the current development layout, be directly affected by the proposed development. Development will however require destruction of the site in order to retain the natural splendour of the area. Destruction of the site is not subject to SAHRA approval.



Figure 18: General view of the single farm workers' unit comprising Site 2 (DW2CR)

✂ SITE SIGNIFICANCE AND RECOMMENDATIONS:

Site 2 (DW2CR) post-dates 60 years of age; the site is not formally protected under the NHRA 1999. The site is of no contemporary cultural heritage significance or sensitivity. No SAHRA *Site Significance* rating is thus applicable.

Destruction of Site 2 is not subject to SAHRA approval.

3.3.1.3) SITE 3: DW1HR

HISTORIC / COLONIAL PERIOD RESOURCE

- RESIDENCE

- S28°35'15.2"; E27°58'47.9"

Site 3 (DW1HR), located in the north western (NW) part of the proposed development area, comprises of the operational farmstead; inclusive of the residence, related outbuildings and farming infrastructure. The residence, an old sandstone structure, pre-dating 60 years of age is formally protected under the NHRA 1999. Later, non-period style additions have been made to the structure. Selected outbuildings may date to the origin of the residence, however in general these are characterised by dominant later additions / alterations or evidently date to a more recent period. Related farming infrastructure includes primarily a number of cement, but also scraped dams.

A portion of Site 3, namely the sandstone residence, the origins of which pre-dates 60 years of age, is formally protected under the NHRA 1999.

In accordance with current development plans Site 3 will not directly be affected by the proposed development. However, in order to create the natural ambiance of the mountain retreat, development may require destruction of the site or portions thereof. Alternatively alterations to the structure for inclusion in the final development layout may be considered.



Figure 19: General view of the Site 3 farmstead comprising the residence, associated outbuildings and infrastructure



Figure 20: The Site 3 farmstead residence, formally protected under the NHRA 1999



Figure 21: General view of selected relating farming infrastructure; an old dam comprising part of the infrastructure of Site 3, situated in close proximity to the farmstead



Figure 22: A scraped dam located in the fields adjacent to the farmstead and comprising part of Site 3

✂ **SITE SIGNIFICANCE AND RECOMMENDATIONS:**

A portion of Site 3 (DW1HR) namely the sandstone residence pre-dates 60 years of age and is formally protected under the NHRA 1999. The remainder of the site post-dates 60 years of age, by implication not formally protected under the NHRA 1999, or not comprising of defined heritage resources protected under the NHRA 1999. A SAHRA *Site Significance* rating is thus not applicable to the remainder of the site; destruction of or alteration to the remainder of the site is not subject to SAHRA approval.

The Site 3 sandstone residence is assigned a SAHRA *Medium Significance* and a *Generally Protected B* field rating: The residence should be conserved. Alternatively the developer should apply for a *FSHRA Destruction / Alteration Permit* prior to destruction / alteration of the site.

It is recommended that, in lieu of the development, the sandstone residence comprising a portion of Site 3, be destroyed / altered under a FSHRA Destruction / Alteration permit.

Destruction / alteration to the remainder of Site 3 is not subject to SAHRA approval.

3.3.1.4) SITE 4: DWISA

ARCHAEOLOGICAL RESOURCE

- LATER STONE AGE (LSA) SITE

- S28°34'57.7"; E27°59'29.1" (SEE TABLE 3)

Site 4 (DWISA) is located towards the eastern central portion of the development area. The recorded site extent, based on artefacts encountered in access road cuttings and a general decrease in artefacts observed in ploughed fields, comprise of an approximate 24ha area. The site constitutes a sub-surface site; no artefacts were observed on the surface of virgin land, the presence of all artefacts is ascribed to disturbance. A clear anthropic layer, identified within the access road cuttings yielded a single artefactual layer at depths varying from 7-25cm below the present day surface.

Delineating the southern border of the site; artefacts were identified in sections of the access road cuttings in a clear stratigraphic layer as well as on the road surface from the entrance to the property to the turn at the farm workers' village (Site 1). Closer to the entrance of the property shallow earthworks also yielded artefact concentrations. The remainder of the site extent is based on artefact observances in disturbed agricultural fields, with the site boundaries indicative of a decrease in artefact quantities or virgin fields where the site is expected to continue sub-surfacely.

The anthropic member is closely related to the geology of the area; artefacts were only encountered in direct association with siliceous raw material. Artefacts were produced from the local siliceous raw material, with high quantities of agate and quartz having been selected. The site thus constitutes a knapping (or factory) site focussing on the production of Later Stone Age (LSA) artefacts. Artefact types are representative of the microlithic LSA where small tools /flakes were used to produce composite tools. The assemblage comprise of formal tools, flakes, cores and knapping *debris*. A few larger tools were encountered, these are interpreted as a component of the microlithic LSA assemblage; no additional temporal, industrial or stratigraphic component to the site is inferred. Artefact ratios varied radically within the demarcated site boundary with high recorded ratios (artefact: m²) approximating 30:1 – 7:1, although the anthropic presence is not continuous across the site extent, an observance that may be ascribed sub-surface disturbance vs. the presence of siliceous geological material.

Site 4, a LSA microlithic site, comprises of an archaeological resource as defined and protected by the NHRA 1999.

In accordance with the current development layout the site will be directly impacted on by the proposed developments' northern residential cluster and the access road to both the northern and southern residential clusters. In addition the site may be impacted on by proposed walkways, the exact routings of which have not as yet been finalised.



Figure 23: *In situ* artefacts and siliceous raw material on the scraped surface of the access road



Figure 24: Artefacts and associated raw material in a definite anthropic layer, exposed in access road cutting sections



Figure 25: A selection of microlithic LSA artefacts collected from the access road surface



Figure 26: Shallow earthworks and related *debris* mounds, artefacts were discovered *in situ* in shallow sections of earthwork scrapings



Figure 27: Artefacts collected from earthwork disturbance at the entrance to the development area



Figure 28: Artefacts and associated raw material exposed at the southern border of the north eastern (NE) agricultural field



Figure 29: A selection of artefacts collected from exposures described in Figure 28



Figure 30: General view of the central agricultural fields, yielding *in situ* LSA artefacts and associated raw material

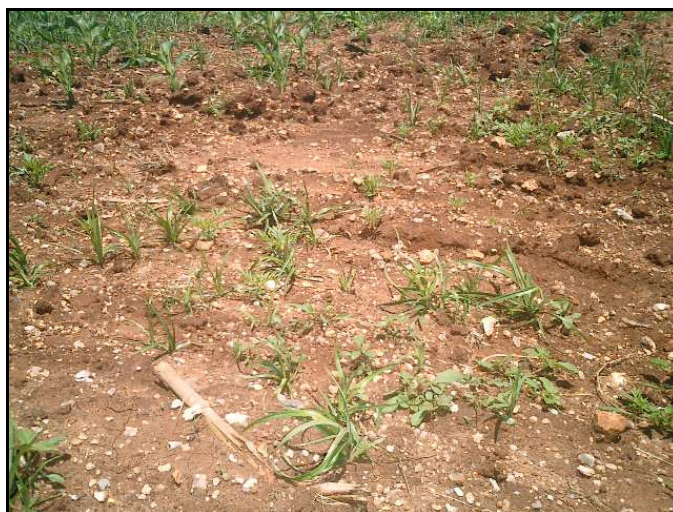


Figure 31: Close-up of agricultural activities having brought the now *ex situ* anthropic component of Site 4 to the surface



Figure 32: A selection of LSA microlithic artefacts from the central part of Site S4



Figure 33: Selected microlithic LSA artefacts discovered in disturbed agricultural fields towards the western boundary of Site 4

Locality DW2SA: Recorded locality DW2SA is characterised by 2 relatively small, perennial water holes situated next to one another. Microlithic LSA artefacts and associated siliceous raw material was found eroding out of the sections of the water holes. Artefacts are technologically and typologically similar to the Site 4 (DW1SA) deposits. Locality DW2SA is interpreted as a surface exposure of continuous sub-surface deposits / anthropic lenses associated with siliceous raw material, linking the locality with Site 4.

The proposed De Witteberg Mountain Resort development will not impact on recorded locality DW2SA. The northern residential cluster is located north of the locality; with the southern residential cluster situated immediately east of the occurrence. Proposed walkways may however well impact on deposits associated with locality DW2SA.



Figure 34: General view of the recorded locality DW2SA which yielded microlithic LSA artefacts in direct association with water as a draw-card to the locality



Figure 35: *In situ* artefact and raw material exposures at recorded locality DW2SA



Figure 36: Selected microlithic LSA artefacts collected from locality DW2SA

Locality DW3SA: Artefacts and associated raw material was encountered *in situ* in exposed erosion sections in an anthropic layer varying from 7-15cm below the present day surface. A high quantity of *ex situ* artefacts were also found on the surface of the erosion gully. Artefacts are technologically and typologically similar to the Site 4 (DW1SA) deposits. Locality DW3SA is interpreted as a surface exposure of continuous sub-surface deposits / anthropic lenses associated with siliceous raw material, linking the locality with Site 4.

In accordance with the current development layout, development will not impact on the DW3SA deposits. The northern residential cluster is located north of, and the southern residential cluster south-east (SE) of the recorded locality. Proposed walkways may however well impact on deposits associated with locality DW3SA.



Figure 37: General view of recorded locality DW3SA; shallow exposed sections of approximately 50cm in depth displayed a clear artefact member



Figure 38: General view of larger erosion sections at locality DW3SA; *in situ* artefacts were restricted to a 7-15cm level below the present day surface



Figure 39: *In situ* artefacts and artefacts that eroded out of exposed sections at recorded locality DW3SA

Locality DW4SA: Recorded locality DW4SA is characterised by a low rising hill. Low quantities of microlithic LSA artefacts were found overlying the sandstone geological substrate of the hill. Low quantities of artefacts may be indicative of the Site 4 occurrence's boundary line, limited local siliceous raw material or Palaeolithic use of the landscape. Artefacts are technologically and typologically similar to the Site 4 (DW1SA) deposits. Locality DW4SA is interpreted as a surface exposure of continuous sub-surface deposits / anthropic lenses associated with Site 4.

The proposed De Witteberg Mountain Resort development will not impact on recorded locality DW4SA. Both the northern and southern residential clusters will be located at relative distances away from the locality. Proposed walkways may however well impact on deposits associated with locality DW4SA.



Figure 40: General view of recorded locality DW4SA characterised by a low rising hill



Figure 41: Selected microlithic LSA artefacts from recorded locality DW4SA

Locality DW5SA: Recorded locality DW5SA is characterised by relatively large erosion gullies. Artefacts and associated raw material was encountered *in situ* in exposed erosion sections in an anthropic layer situated approximately 15cm below the present day surface. A high quantity of *ex situ* artefacts was in addition present on the surface of the erosion gully. Artefacts are technologically and typologically similar to the Site 4 (DW1SA) deposits. Locality DW3SA is interpreted as a surface exposure of continuous sub-surface deposits / anthropic lenses associated with siliceous raw material, linking the locality with Site 4.

In accordance with the current development layout, development will not impact on the DW5SA deposits. Both the northern and southern residential clusters will be located at relative distances away from the locality. Proposed walkways may however well impact on deposits associated with locality DW5SA.



Figure 42: General view of recorded locality DW5SA characterised by relatively large erosion gullies



Figure 43: Locality DW5SA exposed sections indicating a definite single anthropic layer at approximately 15cm below the present day surface



Figure 44: Selected artefacts from recorded locality DW5SA

✂ ***SITE SIGNIFICANCE AND RECOMMENDATIONS:***

Site 4 and associated recorded localities DW2SA, DW3SA, DW4SA and DW5SA do comprise of archaeological resources as defined and protected by the NHRA 1999. Site 4 and the associated recorded localities are ascribed a SAHRA *Medium Significance* and a *Generally Protected B* field rating. It is recommended that the site and associated recorded localities be conserved. Alternatively the site should be mitigated and recorded localities monitored prior to development in the area.

In accordance with the current development layout Site 4 will directly be impacted on by the proposed northern residential cluster of the development. In addition the access road leading to the northern and southern residential clusters will impact on the Site 4 deposits. Proposed walkways may impact on recorded localities DW2SA, DW3SA, DW4SA and DW5SA. None of the recorded localities will directly be impacted on by either the northern or southern residential clusters.

The developer may consider either conservation of the deposits or mitigation prior to development as management options for development.

Recommended minimum conservation requirements would include:

1. No development in the Site 4 and associated DW2SA, DW3SA, DW4SA and DW5SA areas – the areas should be conserved *in situ*;
2. The proposed northern residential cluster be relocated either to the north or west of Site 4;
3. Alternative access roads be considered to the relocated location and the southern residential cluster; and
4. In accordance with the NHRA 1999, should alternative access roads exceed 300m in length the proposed developments should be subjected to Phase 1 AIA's.

Recommended mitigation to precede development (northern residential cluster, access road to the northern and southern residential clusters and limited impact by proposed walkways) in the area would include:

1. Phase 2 archaeological mitigation of approximately 25m² to salvage a representative sample of the Site 4 deposits;
2. Test pit excavations of approximately 10m² for monitoring and comparative purposes. It is recommended that test pit excavations extend south to include selected deposits from recorded localities DW2SA, DW3SA or DW5SA;
3. All Phase 2 archaeological mitigation to be conducted by a SAHRA listed ASAPA accredited CRM archaeologist under a SAHRA *Excavation Permit*.

It is recommended that Site 4 be either conserved (no development in the particular area – relocation of the northern residential development and access roads to the relocated location and the southern residential cluster) or that development be preceded by a Phase 2 archaeological mitigation project, focussing on the Site 4 deposits but inclusive of archaeological monitoring at selected recorded localities DW2SA, DW3SA or DW5SA.

3.3.1.5) SITE 5: DW6SA

ARCHAEOLOGICAL RESOURCE

- LATER STONE AGE (LSA) SITE

- S28°35'53.9"; E27°59'32.1" (SEE TABLE 3)

Site 5 (DW6SA) is located towards the central south western extent of the proposed development area, bordering the cliff face demarcating the property boundary. The indicated, approximate 17ha site extent represents recorded microlithic LSA artefact exposures, at varying ratios (artefacts: m²) ranging from 15:1 to 5:1. Artefacts were discovered eroding out of the exposed sections adjoining the cliff edge and in *ex situ* context on exposed rock surfaces. The artefact layer seems to be at a similar depth than observed at Site 4, namely varying between 7-25cm below the present day surface. A low quantity of artefacts was present in stream bed sections / contexts further west than the indicated site boundary. The low presence of artefacts here and the apparent lack of a clearly defined anthropic stratigraphic member do not warrant formal conservation of low density assemblages.

Artefacts were produced from local siliceous raw material, with high quantities of agate and quartz having been selected. The site may thus well constitute a knapping (or factory) site focussing on the production of Later Stone Age (LSA) artefacts. Artefact types are representative of the microlithic LSA where small tools / flakes were used to produce composite tools. The assemblage comprise of formal tools, flakes, cores and knapping *debris*. The anthropic presence is not continuous across the site extent, an observance that may be ascribed to sub-surface disturbance vs. the presence of siliceous geological material and the Palaeolithic use of the landscape.

The microlithic LSA site, Site 5, do comprise of an archaeological resource as defined and protected by the NHRA 1999.

In accordance with the current development layout the site will not be impacted on. Formal *in situ* conservation of the site is thus in accordance with the development layout. The site may however be impacted on by proposed walkways, the exact routings of which have not as yet been finalised.



Figure 45: General view of the Site 5 area located at the south western (SW) cliff face forming the boundary of the proposed development area



Figure 46: General view of Site 5; deposits containing anthropic material are intersected with exposed rock surfaces



Figure 47: Shallow erosion sections on one of the Site 5 hills exposed a number of artefacts



Figure 48: A selection of artefacts that have eroded out of hillside deposits



Figure 49: *Ex situ* artefacts were discovered on the numerous exposed rock surfaces characterising the Site 5 landscape



Figure 50: A selection of *ex situ* artefacts collected from exposed rock surfaces

✂ ***SITE SIGNIFICANCE AND RECOMMENDATIONS:***

Site 5 comprises of an archaeological resource as defined and protected by the NHRA 1999. The site is ascribed a SAHRA *Medium Significance* and a *Generally Protected B* field rating; the site should be conserved. Alternatively the site should be mitigated prior to development in the area.

In accordance with the current development layout Site 5 will not be impacted on by the proposed development. *In situ*, formal conservation of the deposits should form part of the development's management. Deposits may however be impacted on by proposed walkways:

1. It is recommended that walkways in the Site 5 area focus on rock exposed surfaces, where impact will primarily be limited to *ex situ* deposits.
2. It is recommended that the developer ensures legislative compliance by residents and visitors to the development area, including as minimum notice (by means of pamphlets / on site notice board) that the site is formally protected under the NHRA

1999 and that no artefacts may be removed from the site without a SAHRA Collections Permit.

In situ, formal conservation of Site 5 is recommended; proposed walkways should be restricted to rock exposed surfaces and the developer should ensure legislative compliance by residents and visitors to the site.

3.3.2) CONCLUSION

The proposed De Witteberg Mountain Resort Development will impact on 5 archaeological and cultural heritage resources, namely:

1. Site 1 - DW1CR - Contemporary Cultural Heritage Resource;
2. Site 2 - DW2CR - Contemporary Cultural Heritage Resource;
3. Site 3 - DW1HR - Historic / Colonial Period Resource;
4. Site 4 - DW1SA - Later Stone Age Archaeological Site (associated with recorded localities DW2SA; DW3SA; DW4SA and DW5SA); and
5. Site 5 - DW6SA - Later Stone Age Archaeological Site.

Sites 1 & 2 comprise of contemporary cultural heritage resources of no contemporary sensitivity or significance; the sites are not formally protected under the NHRA 1999. The sites will be destroyed in lieu of the development. Site destruction is not subject to SAHRA approval.

The sandstone residence, pre-dating 60 years of age and comprising a portion of Site 3 is formally protected under the NHRA 1999. Final development plans may include alteration to the residence. Alternatively site destruction may be required. Destruction / alteration of the Site 3 sandstone residence should be done under a FSHRA *Destruction / Alteration Permit*. The remainder of Site 3 including associated outbuildings and farming infrastructure is not formally protected under the NHRA 1999. Destruction / alteration of the remainder of Site 3 is not subject to SAHRA approval.

Site 4, a formally protected LSA archaeological resource, will directly be impacted on by the northern residential cluster as well as by the access road leading to the northern and southern residential clusters. In accordance with the NHRA 1999 management of the resource may entail:

1. Site conservation, implying relocation of the northern residential cluster and rerouting of the access roads to the relocated and southern residential clusters; or
2. Phase 2 archaeological mitigation to salvage a representative sample of the deposit prior to development impact.

Site 5 comprises of a formally protected LSA archaeological resource. In accordance with the current development proposal the site will be conserved.

4) RECOMMENDATIONS

The proposed De Witteberg Mountain Resort Development, to be located on Portion 4 of the Farm Jacobz-Berg 150 (Monte Carlo), Rosendal, Ficksburg District, Free State, South Africa will impact on 5 identified archaeological and cultural heritage resources. *It is recommended that development proceed provided the developer complies with the following recommendations:*

1. **SITE 1 - DW1CR - CONTEMPORARY CULTURAL HERITAGE RESOURCE (VILLAGE)**
Destruction of Site 1 is not subject to SAHRA approval.
2. **SITE 2 - DW2CR - CONTEMPORARY CULTURAL HERITAGE RESOURCE (RESIDENCE)**
Destruction of Site 2 is not subject to SAHRA approval.
3. **SITE 3 - DW1HR - HISTORIC / COLONIAL PERIOD RESOURCE (RESIDENCE)**
It is recommended that, in lieu of the development, the sandstone residence comprising a portion of Site 3, be destroyed / altered under a FSHRA *Destruction / Alteration Permit*. Destruction / alteration to the remainder of Site 3 is not subject to SAHRA approval.
4. **SITE 4 - DW1SA - LATER STONE AGE ARCHAEOLOGICAL SITE (ASSOCIATED WITH RECORDED LOCALITIES DW2SA; DW3SA; DW4SA & DW5SA)**
It is recommended that Site 4 be either conserved (no development in the particular area – relocation of the northern residential development and access roads to the relocated location and the southern residential cluster) or that development be preceded by a Phase 2 archaeological mitigation project, focussing on the Site 4 deposits but inclusive of archaeological monitoring at selected recorded localities DW2SA, DW3SA or DW5SA.
5. **SITE 5 - DW6SA - LATER STONE AGE ARCHAEOLOGICAL SITE**
In situ, formal conservation of Site 5 is recommended; proposed walkways should be restricted to rock exposed surfaces and the developer should ensure legislative compliance by residents and visitors to the site.

MC	SITE	CO-ORDINATES	TYPE	PERIOD	DESCRIPTION	IMPACT	RECOMMENDATIONS
THE DE WITTEBERG MOUNTAIN RESORT DEVELOPMENT (LOCATED ARCHAEOLOGICAL AND CULTURAL HERITAGE SITES)							
DW1CR	Site 1	S28°35'27.7"; E27°59'08.8"	Contemporary	N/A	Village	High	Destruction No SAHRA / FSHRA approval required
DW2CR	Site 2	S28°35'09.1"; E27°58'28.2"	Contemporary	N/A	Residence	High	Destruction No SAHRA / FSHRA approval required
DW1HR	Site 3	S28°35'15.2"; E27°58'47.9"	Archaeological	Historic	Residence	High – Med	Destruction FSHRA permit; OR Alteration FSHRA permit
DW1SA	Site 4	S28°34'57.7"; E27°59'29.1" (See site extent co-ordinates)	Archaeological	Later Stone Age (LSA)	Knapping site	High – Med	Mitigation SAHRA permit; OR Conservation No development – Relocation of the northern residential cluster and access road
DW6SA	Site 5	S28°35'53.9"; E27°59'32.1" (See site extent co-ordinates)	Archaeological	Later Stone Age (LSA)	Knapping site	None	Conservation No development – In accordance with development layout

Table 4: Summary of the De Witteberg Mountain Resort Development: Identified archaeological and cultural heritage resources and associated recommendations

4.1) COMPLIANCE REQUIREMENTS DURING THE CONSTRUCTION PHASE

The developer should ensure that heritage related information is communicated to all contractors and sub-contractors, inclusive of the localities of identified sites and related SAHRA and FSHRA recommendations thereto.

Impact on formally protected sites may only be permitted under SAHRA / FSHRA *Excavation / Destruction / Alteration Permits*.

Should any cultural heritages resources, not reported on in this report be encountered during the course of development, both on the surface or sub-surface, the developer should ensure that operation in the immediately vicinity be ceased and the find be reported to SAHRA / ASAPA accredited CRM archaeologist. (Palaeontological resources are often identified by high concentrations of bone, fossilized bone or animal and plant imprints on stone. Archaeological and Historical resources are identified by concentrations of stone tools and knapping debris, ceramic, porcelain, earthenware and glass sherds, mineral slag, bone, metal objects, structure remains including foundations and building material ranging from *daga* to branch and brick, associated occupation middens, stock enclosure remains including vetrified dung etc. In addition unmarked human remains may be encountered.)

4.1) POST CONSTRUCTION COMPLIANCE REQUIREMENTS

Should any cultural heritage resources, as described above, be reported on by either residents or visitors to the De Witteberg Mountain Resort the developer / management should report the find to SAHRA / ASAPA accredited CRM archaeologist / National Museum, Bloemfontein.

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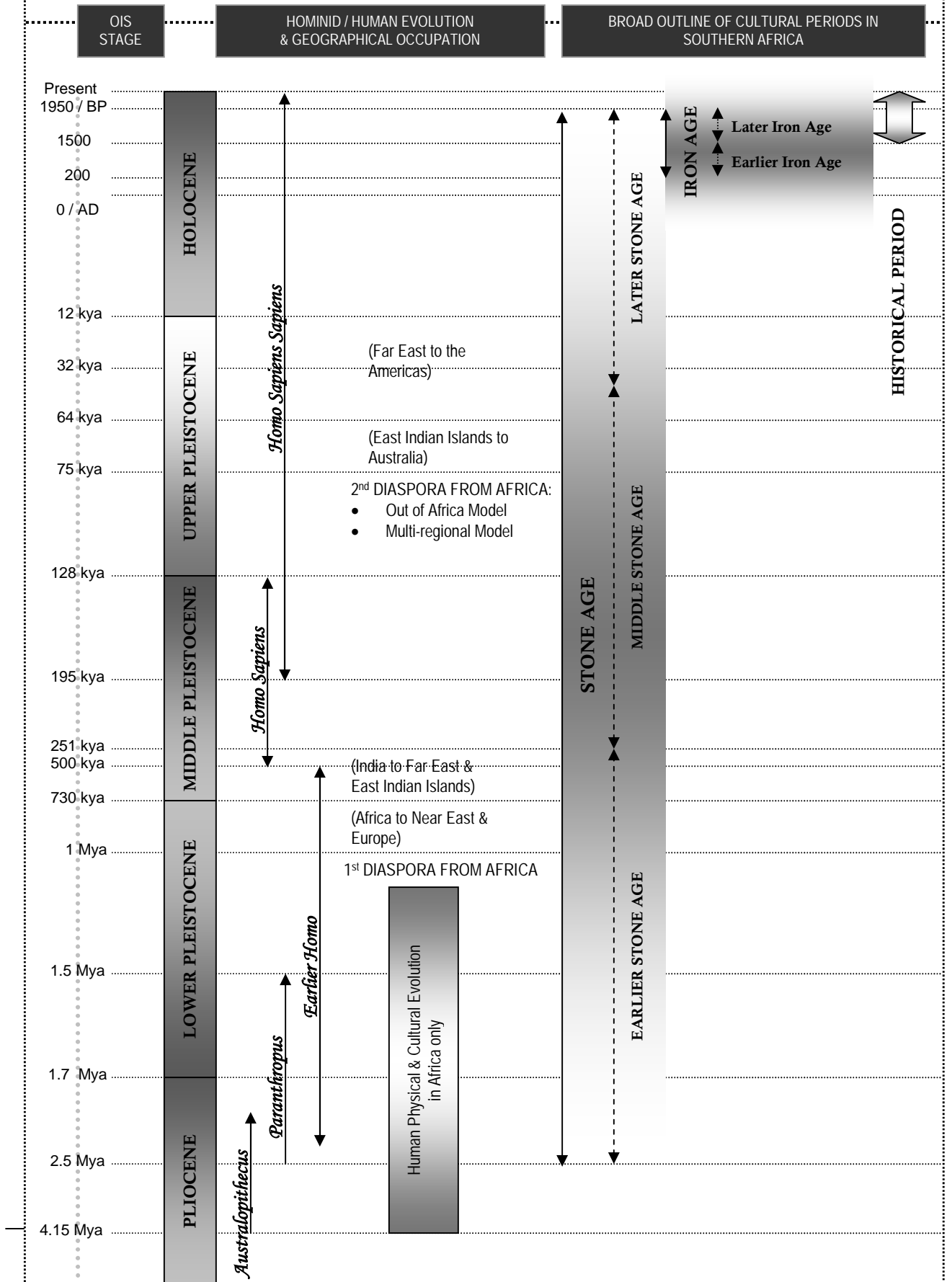
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Schematic Outline of the Pre-historic and Historic Periods (Southern Africa)



EXTRACTS FROM THE

NATIONAL HERITAGE RESOURCES ACT (NO 25 OF 1999)

DEFINITIONS

Section 2

In this Act, unless the context requires otherwise:

- ii. “*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 10 m of such representation;
 - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, ... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- viii. “*Development*” means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –
 - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
 - b) carrying out any works on or over or under a place;
 - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
 - d) constructing or putting up for display signs or hoardings;
 - e) any change to the natural or existing condition or topography of land; and
 - f) any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. “*Grave*” means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. “*Living heritage*” means the intangible aspects of inherited culture, and may include –
 - a) cultural tradition;
 - b) oral history;
 - c) performance;
 - d) ritual;
 - e) popular memory;
 - f) skills and techniques;
 - g) indigenous knowledge systems; and
 - h) the holistic approach to nature, society and social relationships.
- xxxi. “*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 trances;
- xli. “*Site*” means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. “*Structure*” means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

NATIONAL ESTATE

Section 3

- 1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- 2) Without limiting the generality of subsection 1), the national estate may include –
 - a) places, buildings, structures and equipment of cultural significance;
 - b) places to which oral traditions are attached or which are associated with living heritage;
 - c) historical settlements and townscapes;
 - d) landscapes and natural features of cultural significance;
 - e) geological sites of scientific or cultural importance
 - f) archaeological and palaeontological sites;
 - g) graves and burial grounds, including –

- i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
- h) sites of significance relating to the history of slavery in South Africa;
- i) movable objects, including –
- i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - ii. objects to which oral traditions are attached or which are associated with living heritage;
 - iii. ethnographic art and objects;
 - iv. military objects;
 - v. objects of decorative or fine art;
 - vi. objects of scientific or technological interest; and
 - vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

STRUCTURES

Section 34

- 1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

ARCHAEOLOGY, PALAEOLOGY AND METEORITES

Section 35

- 3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- 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;
 - 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 which assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- 5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may –
- a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph a) to apply for a permit as required in subsection 4); and
 - d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

BURIAL GROUNDS AND GRAVES

Section 36

- 3) 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.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- 6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
 - a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-internment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

HERITAGE RESOURCES MANAGEMENT

Section 38

- 1) Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorised as –
 - a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
 - b) the construction of a bridge or similar structure exceeding 50 m in length;
 - c) any development or other activity which will change the character of a site –
 - i. exceeding 5 000 m² in extent; or
 - ii. involving three or more existing erven or subdivisions thereof; or
 - iii. involving three or more erven or subdivisions thereof which have been consolidated within the past five years; or
 - iv. the costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - d) the rezoning of a site exceeding 10 000 m² in extent; or
 - e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,must at 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.
- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
 - a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - b) notify the person concerned that this section does not apply.
- 3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection 2a) ...

- 4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development decide –
 - a) whether or not the development may proceed;
 - b) any limitations or conditions to be applied to the development;
 - c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - e) whether the appointment of specialists is required as a condition of approval of the proposal.

APPOINTMENT AND POWERS OF HERITAGE INSPECTORS

Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary –
 - a) enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
 - b) confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
 - c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act.
- 10) A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority.