
PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

RATANANG EXT RESIDENTIAL DEVELOPMENT, JACOBSDAL, FREE STATE, SOUTH AFRICA

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REPORT TO:

PIET DE BIE (PHETHOGO CONSULTING)

Tel: 051 448 3906/7/8; Fax: 051 448 6728; Postal Address: P.O. Box 43284, Heuwelsig, 9332;

E-mail: piet@phethogo.co.za

ANDREW SALOMON (South African Heritage Resources Agency – SAHRA, APM Unit)

Tel: 021 462 4505; Fax: 021 462 4509; Postal Address: P.O. Box 4637, Cape Town, 8000;

E-mail: asalomon@sahra.org.za

GABRIEL TLHAPI (South African heritage Resources Agency – SAHRA, Free State)

Tel: 051 430 4139; Fax: 051 4482536; Postal Address: P.O. Box 9743, Bloemfontein, 9300;

E-mail: gtlhapi@fs.sahra.org.za

PREPARED BY:

KAREN VAN RYNEVELD (ArchaeoMaps Archaeological Consultancy)

Tel: 051 446 0148 / 084 871 1064; Fax: N/A; Postal Address: P.O. Box 28530, Danhof, 9310;

E-mail: ArchaeoMaps.karen@iburst.co.za / kvanryneveld@gmail.com

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**RATANANG EXT RESIDENTIAL DEVELOPMENT,
JACOBSDAL, FREE STATE, SOUTH AFRICA**

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1) TERMS OF REFERENCE

Phethogo Consulting is in the process of preparing the Environmental Impact Assessment (EIA) for the proposed approximate 11ha Ratanang Extension Residential Development near Jacobsdal in the Free State province, South Africa. ArchaeoMaps Archaeological Consultancy has been appointed by Phethogo Consulting to conduct the Phase 1 Archaeological Impact Assessment (AIA) as specialist sub-section to the EIA.

1.1) *Development Location, Details & Impact*

Ratanang is situated approximately 2.2km north west (NW) of Jacobsdal and roughly 35km north west (NW) along the R705 towards Richie from the R48 Petrusburg / Koffiefontein turnoff. Alternatively the study site can be accessed via Kimberley, approximately 45km along the N12 south (S) towards Richie and 18km south east (SE) along the R705 turnoff from the N12.

The proposed 11ha Ratanang Ext Residential Development is to be located on a portion of the property 'Dorpsgronden van Jacobsdal 11', slightly north west (NW) of Jacobsdal and more or less 2km north east (NE) of the R705 and 1.5km north east (NE) of the Riet River (1:50,000 map ref: 2924BD).

The Ratanang Ext Residential Development will constitute development of 202 erven across a 10.62ha area including 198 erven demarcated for residential purposes, 1 for a community facility (crèche) and 1 for a church. Associated linear development will include streets, stormwater management, sewerage, powerlines etc.

Development impact will be total; resulting in the loss of surface and sub-surface heritage sites / features present in the areas.



Figure 1: *Jacobsdal, Free State, South Africa*



Figure 2: Locality of the proposed Ratanang Ext Residential Development in relation to Jacobsdal, Free State

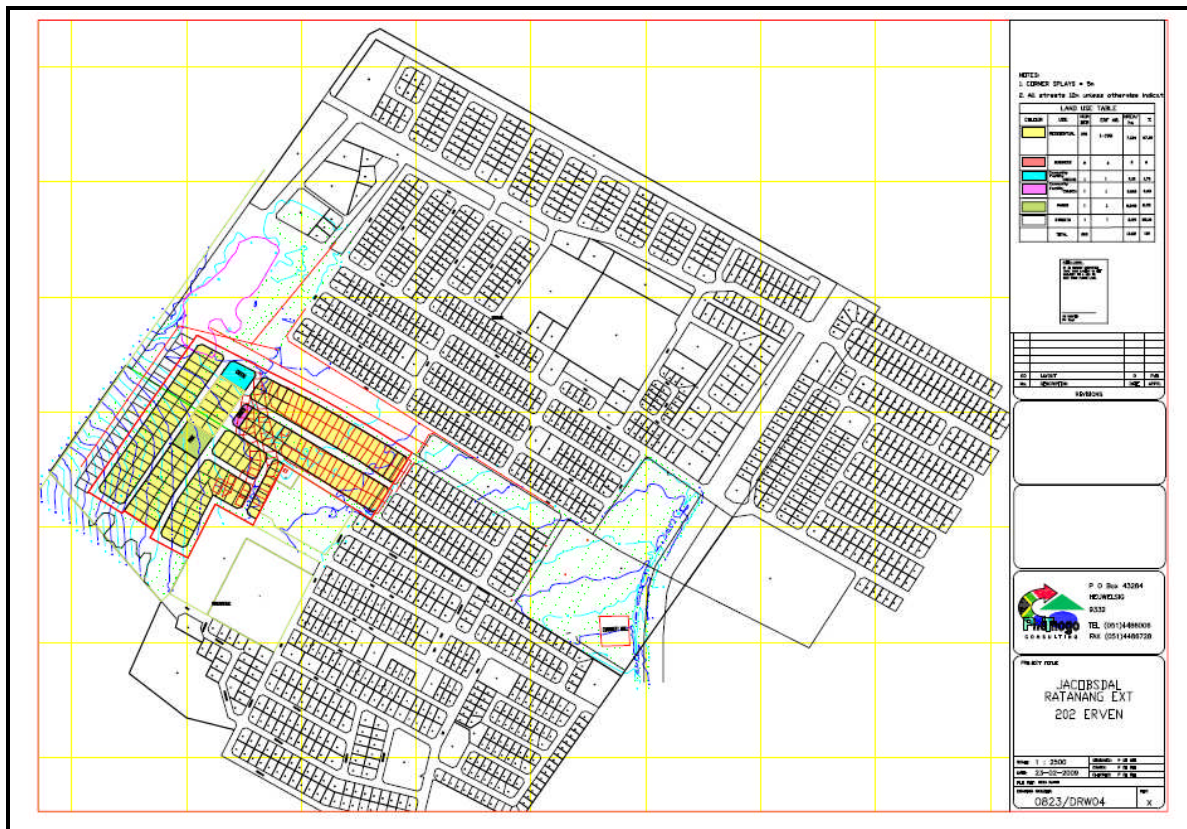


Figure 3: Spatial development layout of the Ratanang Ext Residential Development

2) THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

2.1) *Archaeological Legislative Compliance*

The Phase 1 Archaeological Impact Assessment (AIA) was requested by the South African Heritage Resources Agency (SAHRA) mandatory responsible for the National Heritage Resources Act, Act No 25 of 1999 (NHRA 1999).

The Phase 1 AIA was requested as specialist sub-section to the Environmental Impact Assessment (EIA) in compliance with requirements of the National Environmental Management Act, No 107 of 1998 (NEMA 1998) and associated regulations (2006), and the NHRA 1999 and associated regulations (2000).

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 viewsapes as defined and protected by the NHRA 1999, that may be affected by the proposed development. Palaeontological deposits / sites as defined and protected by the NHRA 1999 are not included as subject to this report.

2.2) *Methodology*

The Phase 1 AIA was conducted over a 1 day period (2009-03-12) by one archaeologist. The assessment was done by foot and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. GPS co-ordinates were taken with a Garmin GPSmap 60CSx GPS (Datum: WGS84). Photographic documentation was done with a Pentax K10D 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).

SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT			
<i>SITE SIGNIFICANCE</i>	<i>FIELD RATING</i>	<i>GRADE</i>	<i>RECOMMENDED MITIGATION</i>
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: SAHRA archaeological and cultural heritage site significance assessment and mitigation recommendations

2.3) Coverage and Gap Analysis

The Phase 1 AIA covered an approximate 17ha area to accommodate the proposed 11ha Ratanang Ext Residential Development and associated linear development. Access to the study site is via an existing road network, primarily through the current extensions of Ratanang and immediate surrounds.

Visibility ranged from good to fair, a direct result of medium to low vegetation cover despite heavy rains in the area over February and March.

2.4) Phase 1 AIA Assessment findings

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of the approximate 17ha assessment area for the Ratanang Ext Residential Development near Jacobsdal in the Free State province.



Figure 4: The Ratanang Ext Residential Development AIA assessed area

General surface observations at the study site included:

1. The eastern (E) part of the proposed development area was characterized by informal settlement units. Assessment of the area was thus restricted to gravel / sand access roads which proved to be unanimously anthropocally sterile.
2. The north eastern (NE) corner of the study site was typified by a dumping and quarry area. Rubble at the site was of contemporary nature, primarily comprising of building rubble, post dating 60 years of age and by implication not protected under the NHRA 1999. Quarry sections and dumps yielded no artefacts or cultural layer; no sub-surface archaeological or cultural heritage material is expected to be impacted on during the course of development. To the north (N) of the dumping and quarry area is a contemporary gravesite (cemetery). The site falls outside

of the proposed Ratanang Ext Residential Development area and will not be impacted on by the proposed development. Continued use of the contemporary gravesite is an indirect requirement of the proposed development.

3. The south western (SW) part of the study site is characterized by dolerite outcrops; a landscape feature known to be prone to rock engraving sites with a number of sites recorded in the National Museum, Bloemfontein, Rock Art Departments' database (Pers. Comm.: Jens Kriek). No rock engravings were discovered at the outcrops; thus not constituting a rock engraving site. The outcrops is however host to a number of contemporary graffiti displays, primarily done in white PVA and without a particular religious or esthetic theme thereto – the graffiti is not of contemporary cultural significance.

RATANANG EXT RESIDENTIAL DEVELOPMENT, JACOBSDAL, FREE STATE, SOUTH AFRICA					
PORTION OF 'DORPSGRONDEN VAN JACOBSDAL 11'					
MAP SITE CODE	TYPE / PERIOD	DESCRIPTION	CO-ORDINATES	PRELIMINARY RECOMMENDATIONS	
DEVELOPMENT AREA					
1	-	-	S29°07'00.4"; E24°45'11.3"	N/A	
2	-	-	S29°07'01.7"; E24°45'15.2"	N/A	
3	-	-	S29°07'04.0"; E24°45'20.2"	N/A	
4	-	-	S29°07'08.1"; E24°45'27.0"	N/A	
5	-	-	S29°07'11.7"; E24°45'24.5"	N/A	
6	-	-	S29°07'08.9"; E24°45'19.3"	N/A	
7	-	-	S29°07'12.3"; E24°45'17.3"	N/A	
8	-	-	S29°07'10.8"; E24°45'14.2"	N/A	
9	-	-	S29°07'17.6"; E24°45'09.1"	N/A	
10	-	-	S29°07'12.6"; E24°45'01.1"	N/A	

No archaeological or cultural heritage resources as defined and protected under the NHRA 1999 were located within the proposed Ratanang Ext Residential Development study site

Table 2: Phase 1 AIA assessment findings - co-ordinate details



Figure 5: General view of the proposed Ratanang Ext Residential Development study site



Figure 6: Existing informal settlement units at the study site



Figure 7: General view of the dumping and quarry area



Figure 8: Dolerite outcrops at the Ratanang Ext study site (1)



Figure 9: *Dolerite outcrops at the Ratanang Ext study site (2)*



Figure 10: *Contemporary graffiti at the dolerite outcrops*



Figure 11: *Close-up of a contemporary graffiti piece*

2.5) *Conclusion and Recommendations*

Surface assessment of the approximate 17ha study site to accommodate the proposed 11ha Ratanang Ext Residential and associated linear development, to be located immediately adjacent to the existing Ratanang Residential Development, on a portion of the property 'Dorpsgronden van Jacobsdal 11' near the town of Jacobsdal, Free State, yielded no cultural heritage resources inclusive of archaeological deposits / sites, built structures older than 60 years, sites of cultural significance associated with oral histories, burial rounds and graves, graves of victims of conflict and cultural landscapes or viewsapes as defined and protected by the NHRA 1999.



Recommendations:

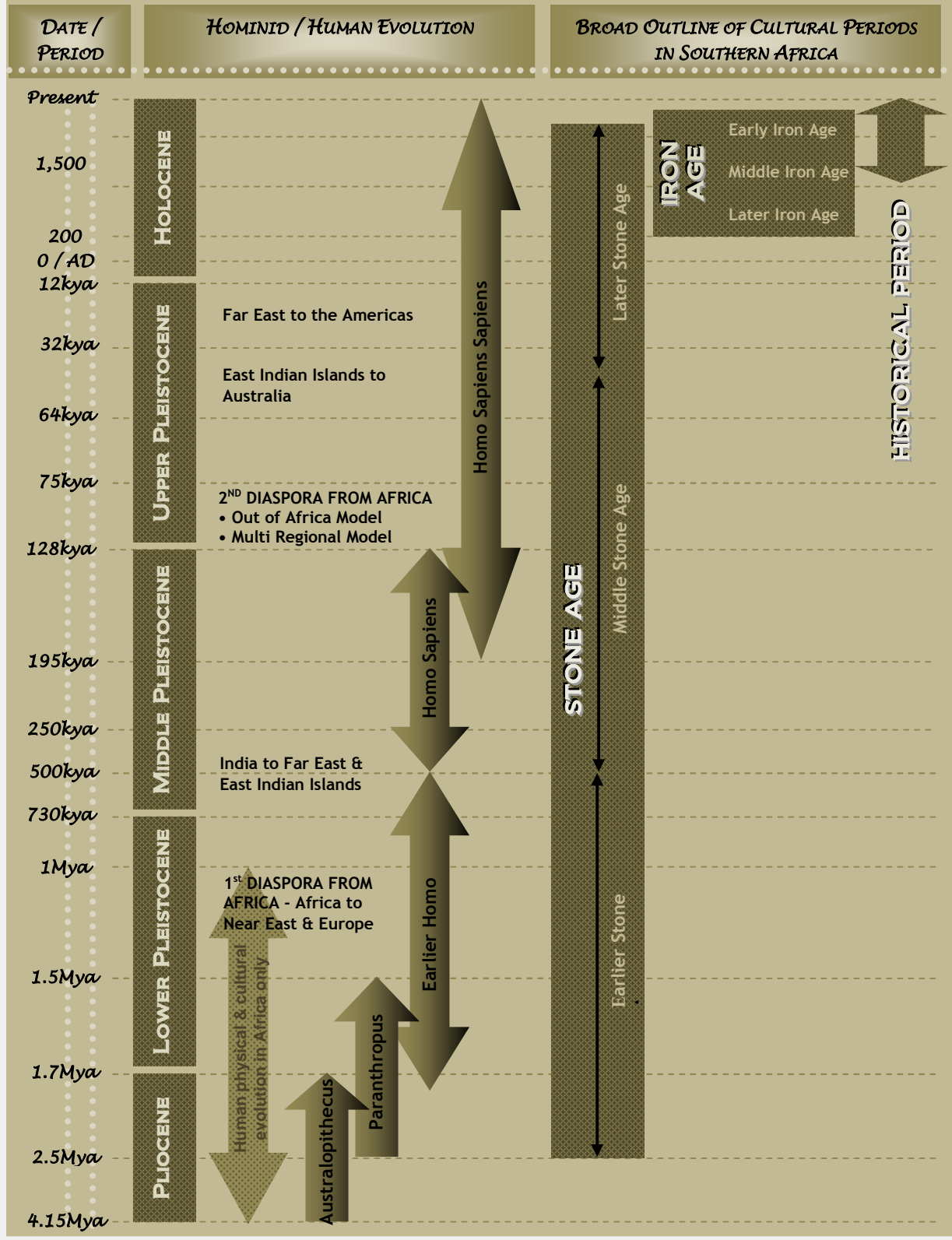
It is recommended that, with reference to cultural heritage compliance as per the requirements of the NHRA 1999, the proposed Ratanang Ext Residential Development proceeds as applied for without the developer having to comply with further archaeological and cultural heritage legislative requirements.

NOTE: Should any archaeological or cultural heritage resources as defined and protected by the NHRA 1999 be identified during the course of development the developer should immediately cease operation in the vicinity of the find and report the site to SAHRA.

3) REFERENCES CITED

1. South African Government. (No. 107) of 1998. *National Environmental Management Act*.
2. South African Government. (No. 25) of 1999. *National Heritage Resources Act*.
3. South African Heritage Resources Agency. 2007. *Minimum standards for the archaeological and heritage components of impact assessments*. Unpublished guidelines.

SCHEMATIC OUTLINE OF THE PRE-HISTORIC AND HISTORIC PERIODS



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 trace;
- 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-interment 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.