

McGregor Museum Department of Archaeology



Phase 1 Archaeological Impact Assessment for proposed Vryburg Waste Water Treatment Works.

David Morris
January 2014

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Introduction

The author was contacted by Ms Lizel van der Westhuizen of Endemic Vision Environmental Services to carry out a phase 1 archaeological and heritage impact assessment with respect to the new proposed Vryburg Waste Water Treatment Works (hereafter WWTW), on Portion 2 of the Farm Rosendal 673, Vryburg (Dr Ruth S Mompoti District Municipality / Naledi Local Municipality), North West Province.

The current Waste Water Treatment Works in Vryburg was constructed in 1982 with a hydraulic load capacity of 4800 m³ per day. Since then upgrades have been implemented, but the existing treatment works is under tremendous strain and it can hardly cope with the current flow and load of 6500 m³ per day.

The site for a new plant was visited in May 2013 and the author was guided on foot by Ms van der Westhuizen and a local engineer to four potential locales (including an abandoned former treatment plant). Fieldnotes and photographs generated during the visit were lodged with the McGregor Museum, Kimberley.

The author of this report is an archaeologist accredited as a Principal Investigator by the Association of Southern African Professional Archaeologists.

The author works independently of the organization commissioning this specialist input, and provides this phase 1 archaeological impact assessment within the framework of the National Heritage Resources Act (No 25 of 1999).

In terms of heritage more broadly, this study reports on archaeology as well as on the presence/absence of colonial era heritage traces in the impact area.

Legislation

The National Heritage Resources Act (No 25 of 1999) (NHRA) provides protection for archaeological resources.

It is an offence to destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object (defined in the Act), without a permit issued by the South African Heritage Resources Agency (SAHRA). Section 35 of the Act protects all archaeological and palaeontological sites and requires that anyone wishing to disturb a site must have a permit from the relevant heritage resources authority. Section 36 protects human remains

older than 60 years. In order for the authority to assess whether approval may be given for any form of disturbance, a specialist report is required. No mining, prospecting or development may take place without heritage assessment and approval.

SAHRA at national level acts on an agency basis for the Provincial Heritage Resources Agency (PHRA) in the Northern Cape, where archaeological sites are concerned. Permit applications should be made to the SAHRA office in Cape Town. In the event of any archaeological material being encountered during prospecting, SAHRA should be contacted immediately (021-4624502).

Methods and limitations

A background literature/museum database search provides indications of what might be expected in the region. The McGregor Museum has previously carried out research on the north western and north eastern outskirts of Vryburg, especially at the rock engraving site of Bernauw (Morris & Mngqolo 1994); but no records exist for the area immediately south of the town and adjacent to Huhudi township. A previous heritage survey was carried out on Rosendal (van Schalkwyk 2012), to the south west of, and across the railway and national road from, the proposed WWTW development. Work on rock art in the region shows that by and large engraving sites are restricted andesite outcrops which do not occur in the vicinity south of Vryburg. The Rosendal survey encountered no archaeological sites of any kind.

Areas indicated for possible placement of the WWTW were examined on foot. Vegetation on a gentle slope (north eastern extremity of the Ghaap Escarpment) is dominated by Vaalbos (*Tarchonanthus*). Soil is shallow and visibility of any possible archaeological or other historical/cultural heritage resources would be high.

In the unlikely event that any heritage feature being encountered during development, for example a burial, or major sub-surface Stone Age site, then work should be halted and SAHRA should be contacted immediately (021-4624502).

Anticipated impacts

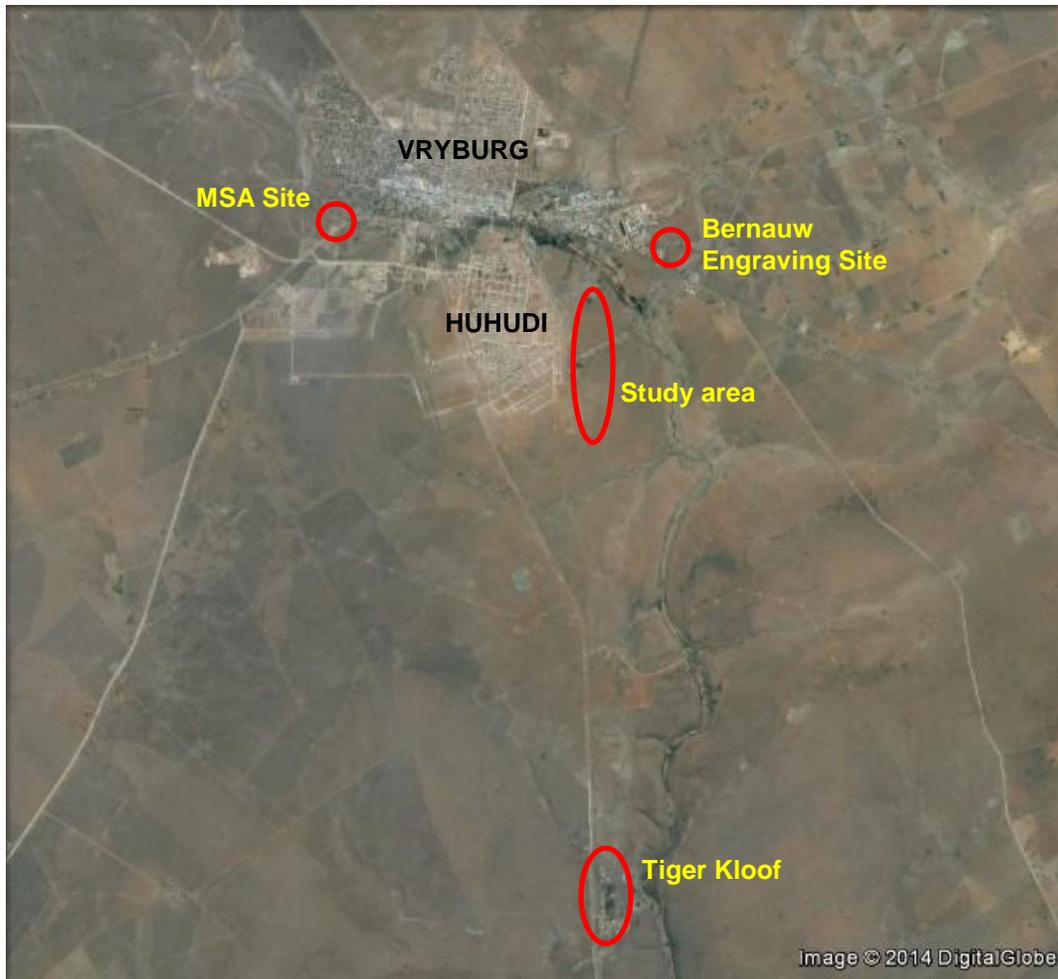
The destructive impacts on heritage resources, where they exist, might be anticipated as being direct, once-off events occurring during development/construction. In the long term, the proximity of WWTW operations in the area could result in secondary indirect impacts resulting from the movement of people or vehicles.

With respect to the magnitude and extent of potential impacts, the operation would include the WWTW development area itself as well as any access road.

Background: archaeological resources in the region

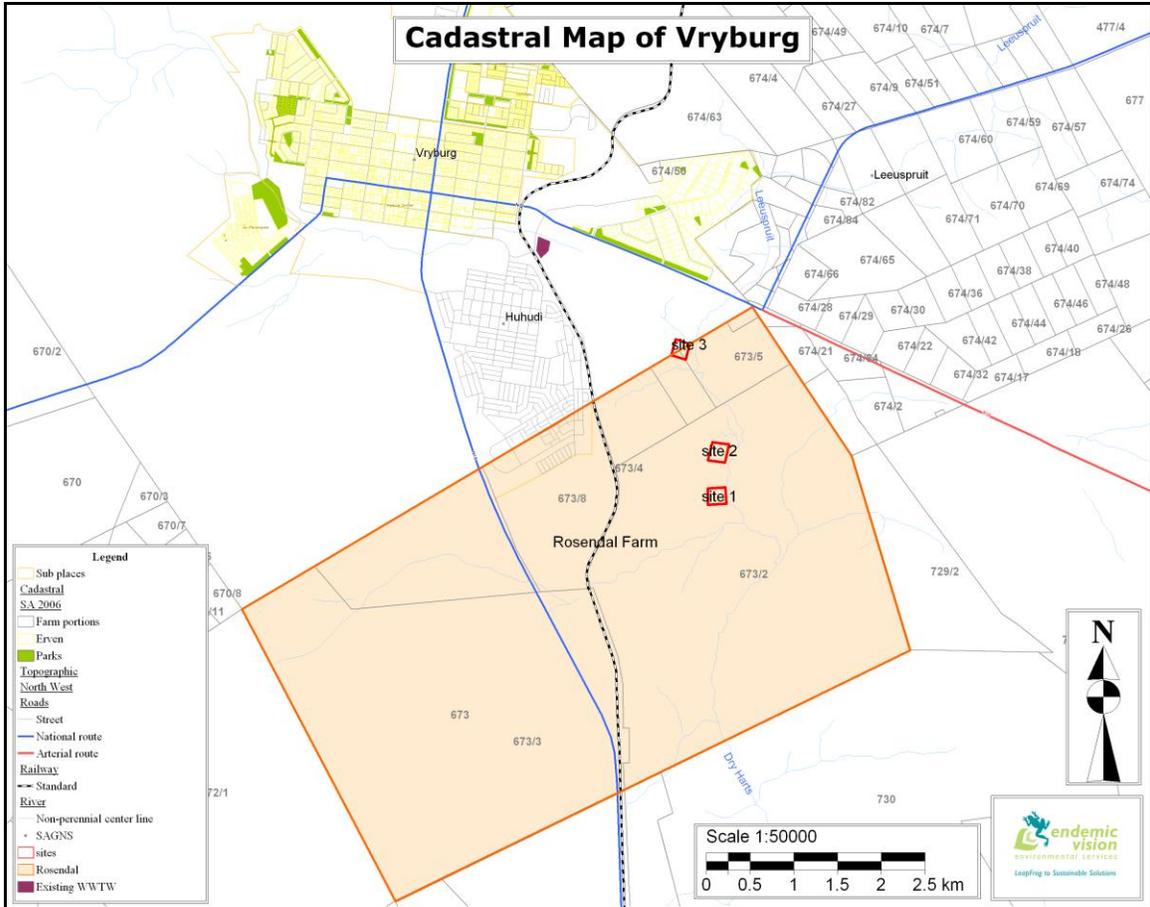
The Northern Cape has a wealth of archaeological sites (Beaumont & Morris 1990; Morris & Beaumont 2004). The significance of any sites encountered in the survey area could be assessed against previous research in the region. Nearby sites of significance are principally the rock engraving sites to the north of Vryburg, the nearest being Bernauw which is now enveloped in the peri-urban area at the north east of the town (Fock & Fock 1984; Morris & Mngqolo 1994). A Middle Stone Age site was noted between the town and the old gaol (prospective Naledi Museum) (Morris & Mngqolo 1994).

The history of Vryburg as colonial and urban centre dates to the 1880s, first in the context of Stellaland (1883) and then subject to British rule following the Warren Expedition and proclamation of British Bechuanaland (1885), later incorporated into the Cape Colony. Municipal status was conferred in 1896. Concentration camps existed here during the Anglo-Boer War, with African refugees being transferred to camps along the Dry Harts. Of note is the LMS Tyger Kloof Institute south of Vryburg and of the study area, an educational institution established in the first decade of the 20th century.



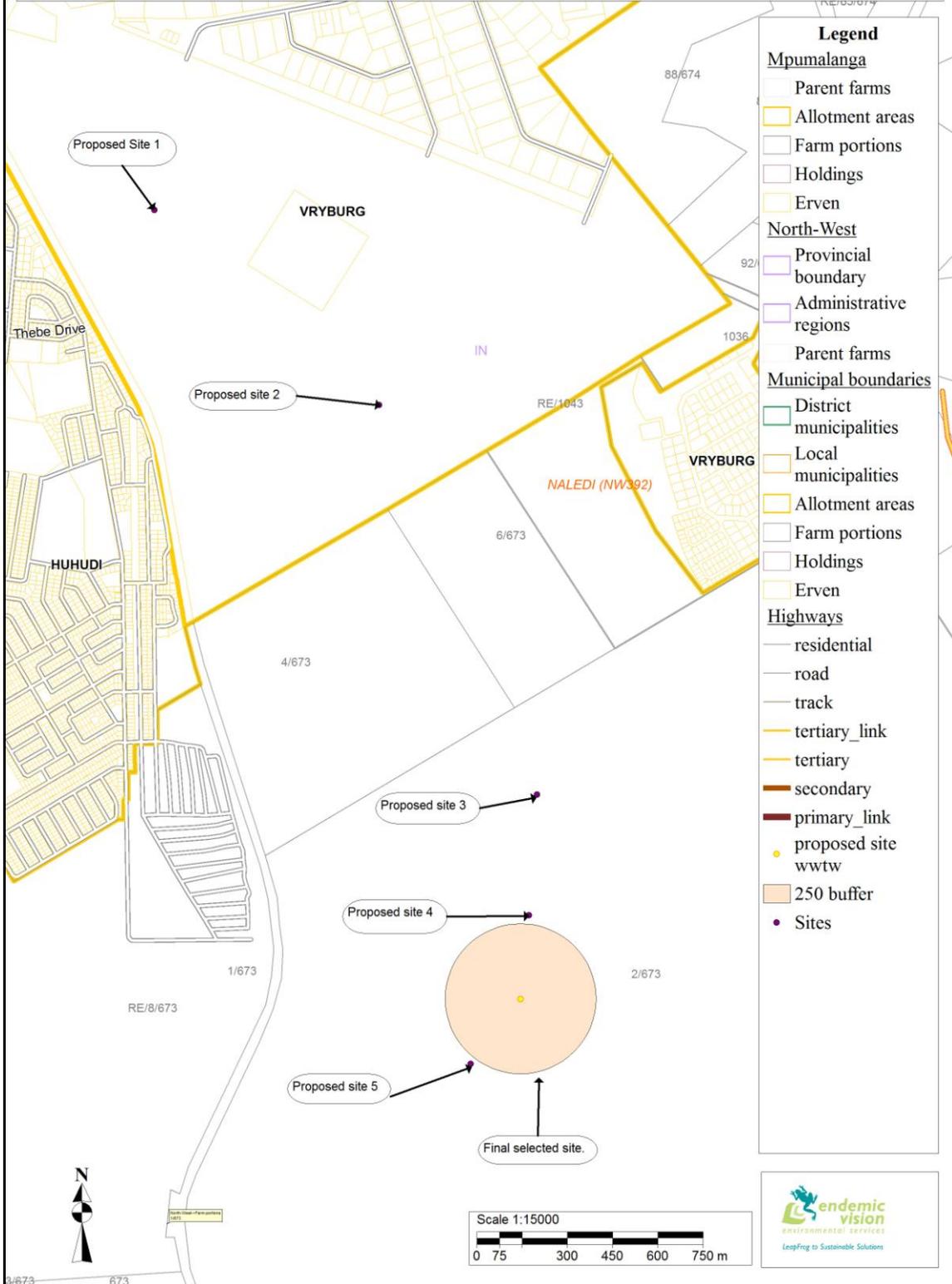
Observations

The areas of proposed WWTW development are indicated in the following maps. Each of five options (four plus a former treatment plant site) was visited and assessed in terms of any archaeological/cultural heritage resources present. A final selected site has been indicated between the two southern-most options.



The relevant section of the farm Rosendal falls within the area covered by 1:50 000 map sheet 2624DC/DD.

SITES FOR VRYBURG WWTW



- Legend**
- Mpumalanga**
 - Parent farms
 - Allotment areas
 - Farm portions
 - Holdings
 - Erven
 - North-West**
 - Provincial boundary
 - Administrative regions
 - Parent farms
 - Municipal boundaries**
 - District municipalities
 - Local municipalities
 - Allotment areas
 - Farm portions
 - Holdings
 - Erven
 - Highways**
 - residential
 - road
 - track
 - tertiary_link
 - tertiary
 - secondary
 - primary_link
 - proposed site wwtw
 - 250 buffer
 - Sites





Southern-most options logged during the site visit on 22 May 2013.

Heritage resources noted during the survey included very low densities of Stone Age material, comprising widely scattered/isolated flakes and cores

Stone Age

Very low density surface occurrences of Stone Age stone artefacts of Pleistocene age were noted over the area.

In no instances were these occurrences of significant contextual integrity, i.e. no organic preservation and no sense of stratigraphic layering.

Soil profiles are generally shallow, hence it is not expected that major sites are masked sub-surface.

These observations are consistent with those made by Van Schalkwyk (who in fact noted no sites) on similar terrain on Rosendal south west of the study area.



Isolated cores (at 26.99322 S 24.76067 E) amongst widely dispersed stone artefacts noted across the terrain.

Twentieth century heritage

Only at the abandoned former waste treatment plant were there any structures of colonial age, and none of these deemed to be of major heritage significance.



Remains of the abandoned former treatment plant in the vicinity of 26.97316 S
24.75236 E.

Summary Conclusions and Recommendations

It is recommended that, from an archaeological and cultural heritage perspective, the proposed development and construction of the Vryburg WWTW at the final selected site may proceed as planned, subject to the following provisos:

That in the unlikely event of any site/feature being found (such as a grave or high density artefact occurrence) in the course of development of the WWTW, SAHRA should be contacted immediately (021-4624502: Dr Mariagrazia Galimberti), so that the find can be investigated and mitigation measures recommended. The Northern Cape PHRA (Ngwao Bošwa ya Kapa Bokone), to which a copy of this report is also being sent, will assume responsibility for archaeological resources in the province when it is accredited to deal with this aspect of heritage. In the interim Bošwa should be contacted in respect of the built environment.

Acknowledgements

I thank Ms Lizel van der Westhuizen who guided me to the areas of proposed development.

References

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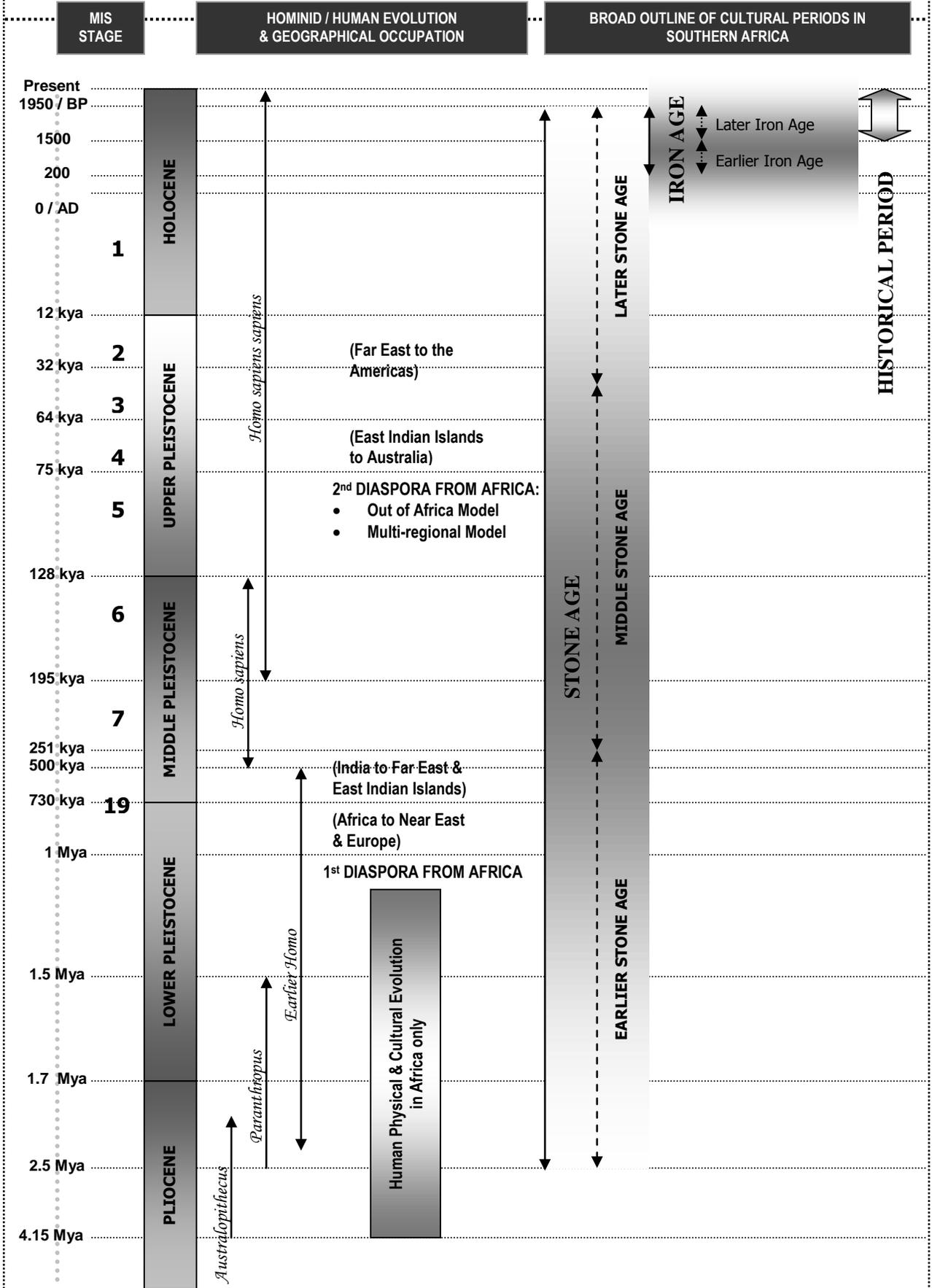
Fock, G.J. & Fock, D.M.L. 1984. *Felsbilder in Südafrika: Kinderdam und Kalahari*. Köln: Böhlau Verlag.

Morris, D. & Beaumont, P. 2004. *Archaeology in the Northern Cape: some key sites*. Kimberley: McGregor Museum.

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Van Schalkwyk, J. 2012. Heritage Impact Assessment for the proposed development of photovoltaic power plants on four different locations in North West and Northern Cape Provinces. Report No: 2012/Jvs/029.

Schematic Human Physical and Cultural Evolution in 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.
- xxxii. “*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.

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.