

**Heritage survey report for the
UPGRADING OF A SECTION OF ROAD P16/1 (R30),
RUSTENBURG MAGISTERIAL DISTRICT,
NORTH WEST PROVINCE**

THE PROJECT:

Upgrading of a twelve km section of road P16/1

THIS REPORT:

HERITAGE SURVEY REPORT FOR THE UPGRADING OF A SECTION OF ROAD P16/1 (R30), RUSTENBURG MAGISTERIAL DISTRICT, NORTH WEST PROVINCE

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INTERDESIGN LANDSCAPE ARCHITECTS

Representative: Ms C Coetzee

Postal Address: P O Box 74648, Lynnwood Ridge, 0040

Tel: (012) 348 1922

E-mail: claudia@ilaweb.co.za

Prepared by:

J van Schalkwyk (D Lit et Phil), Heritage Consultant

ASAPA Registration No. 164

Principal Investigator: Iron Age, Colonial Period, Industrial Heritage

Postal Address: 62 Coetzer Ave, Monument Park, 0181

Tel: 012 347 7270

E-mail: jvschalkwyk@mweb.co.za

EXECUTIVE SUMMARY

HERITAGE SURVEY REPORT FOR THE UPGRADING OF A SECTION OF ROAD P16/1 (R30), RUSTENBURG MAGISTERIAL DISTRICT, NORTH WEST PROVINCE

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is proposed to upgrade a section of road.

Past activities in the study area consist of agriculture. Urbanisation is taking place on a large scale.

One site regarded as having significance, was identified. This is an old water furrow that crosses the road on the farm Waterval. It is regarded as having high significance on a local level. If there is to be any impact on it, it should be documented.

Based on what was found and its evaluation, it is recommended that any development can continue in the area, on condition of acceptance of the following recommendations:

- If construction takes place and archaeological sites are exposed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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GLOSSARY OF TERMS AND ABBREVIATIONS

STONE AGE

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

IRON AGE

Early Iron Age	AD 200 - AD 1000
Late Iron Age	AD 1000 - AD 1830

HISTORIC PERIOD

Since the arrival of the white settlers - c. AD 1840 in this part of the country

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
EIA	Early Iron Age
ESA	Early Stone Age
GOSP	Gauteng Open Spaces Project
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

HERITAGE SURVEY REPORT FOR THE UPGRADING OF A SECTION OF ROAD P16/1 (R30), RUSTENBURG MAGISTERIAL DISTRICT, NORTH WEST PROVINCE

1. INTRODUCTION

An independent heritage consultant was appointed by Interdesign Landscape Architects to conduct a survey to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of an area in which it is proposed upgrade a section of existing road.

The road to be upgraded is a 12 km long section of Road 16/1, also known as the R30. The road making activities would be limited to the current road servitude.

2. TERMS OF REFERENCE

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

This included:

- Conducting a desk-top investigation of the area
- A visit to the proposed development site

The objectives were to:

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

3. DEFINITIONS AND ASSUMPTIONS

The following aspects have a direct bearing on the survey and the resulting report:

- *Cultural resources* are all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

- Sites regarded as having low significance have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation.
- The latitude and longitude of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figure 1 and 2.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources, as well as survey reports, were consulted - see the list of references below.

4.2.1.2 Data bases

The *Heritage Sites Database* and the *Environmental Potential Atlas* was consulted.

4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

4.2.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by Interdesign Landscape Architects by means of maps. As it is a linear development, the survey was done by travelling the total extent of the route, Special attention was given to topographical occurrences such as trenches, holes, outcrops and clusters of trees.

4.2.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System (GPS)*¹ and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

¹ According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

Map datum used: Hartebeeshoek 94 (WGS84).

4.3 Limitations

Sections of the study area were densely vegetated during the field survey, seriously affected the archaeological visibility.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location

The study area, being linear in nature, follows the existing P16-1 or R30, south from Rustenburg in the direction of Mogale City (formerly Krugersdorp). As such it starts at S 25.68212, E 27.25656 and ends at S 25.76998, E 27.27152.

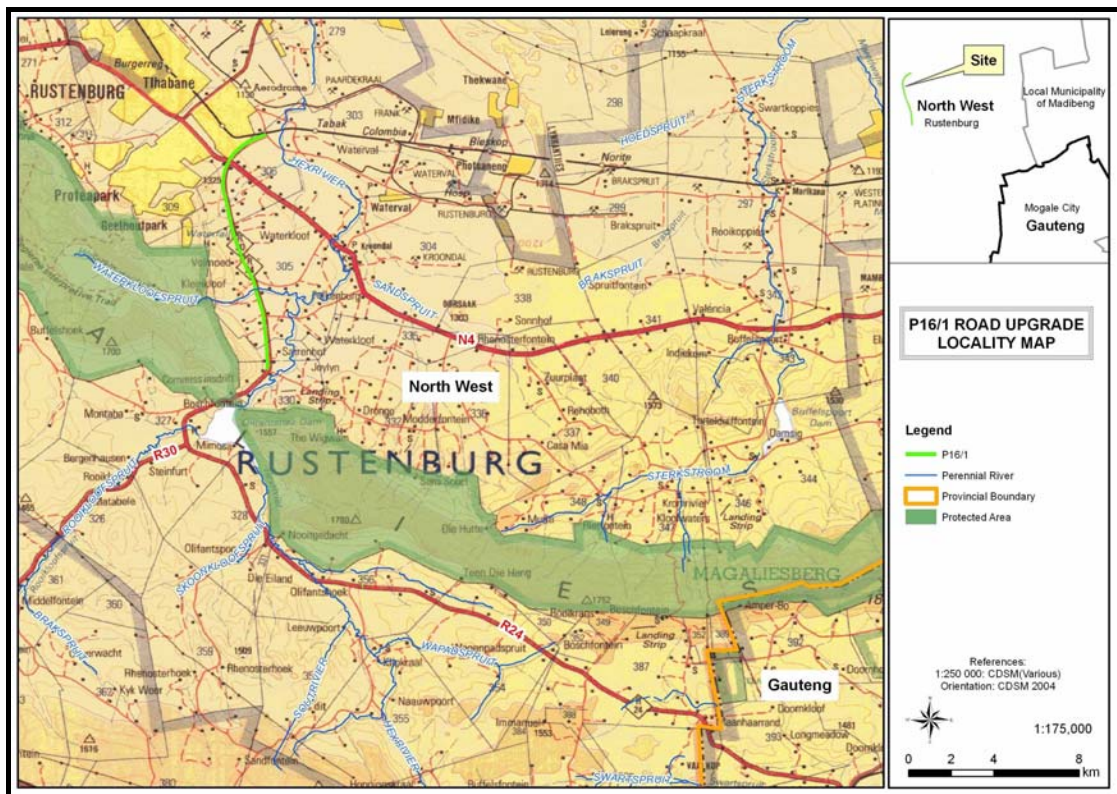


Fig. 1. Location of the section of road (outlined in green) to be upgraded in regional context.

5.2 Site description

The topography of the area is very flat, with very few features (e.g. hills, outcrops or rock shelters, rivers) that usually drew people to settle in its vicinity, in the area. Mountains occur to the east, west and south of the study area.

The geology is made up of norite to the east and quartzite to the west. The original vegetation consists of Mixed Bushveld, with a section to the east classified as Clay Thorn Bushveld.

The area has for some time been subjected to intensive agricultural activities, combined with the development of small-holdings.

5.3 Regional overview

A variety of heritage sites are known to occur in the larger region (Fig. 2). These range from Stone Age sites, including rock engraving sites, to the south of the study area. Iron Age sites also occur in abundance, mostly located in the flat areas where outcrops occur, or in some cases in the Magaliesberg.

A large number of sites dating to historic times also occur in the region. Some of the earliest can be linked to Pres. Paul Kruger. Others are linked to German missionaries that settled in the region. Most common are small informal cemeteries that dot the landscape.

5.4 The affected environment

5.4.1 Stone Age

No sites, features or objects dating to the Stone Age were identified in the study area.

5.4.2 Iron Age

No sites, features or objects dating to the Iron Age were identified in the study area.

5.4.3 Historic period

One site was identified within the study area. This is an old water furrow (Fig. 3) crossing the road at S 25.75677, E 27.27117. Although it is not clear at present, it is possible that furrow can be linked to the Olifantsnek Dam irrigation scheme. This dam was completed in 1928 which originally supplied water to at least 25 000 hectares of agricultural land.

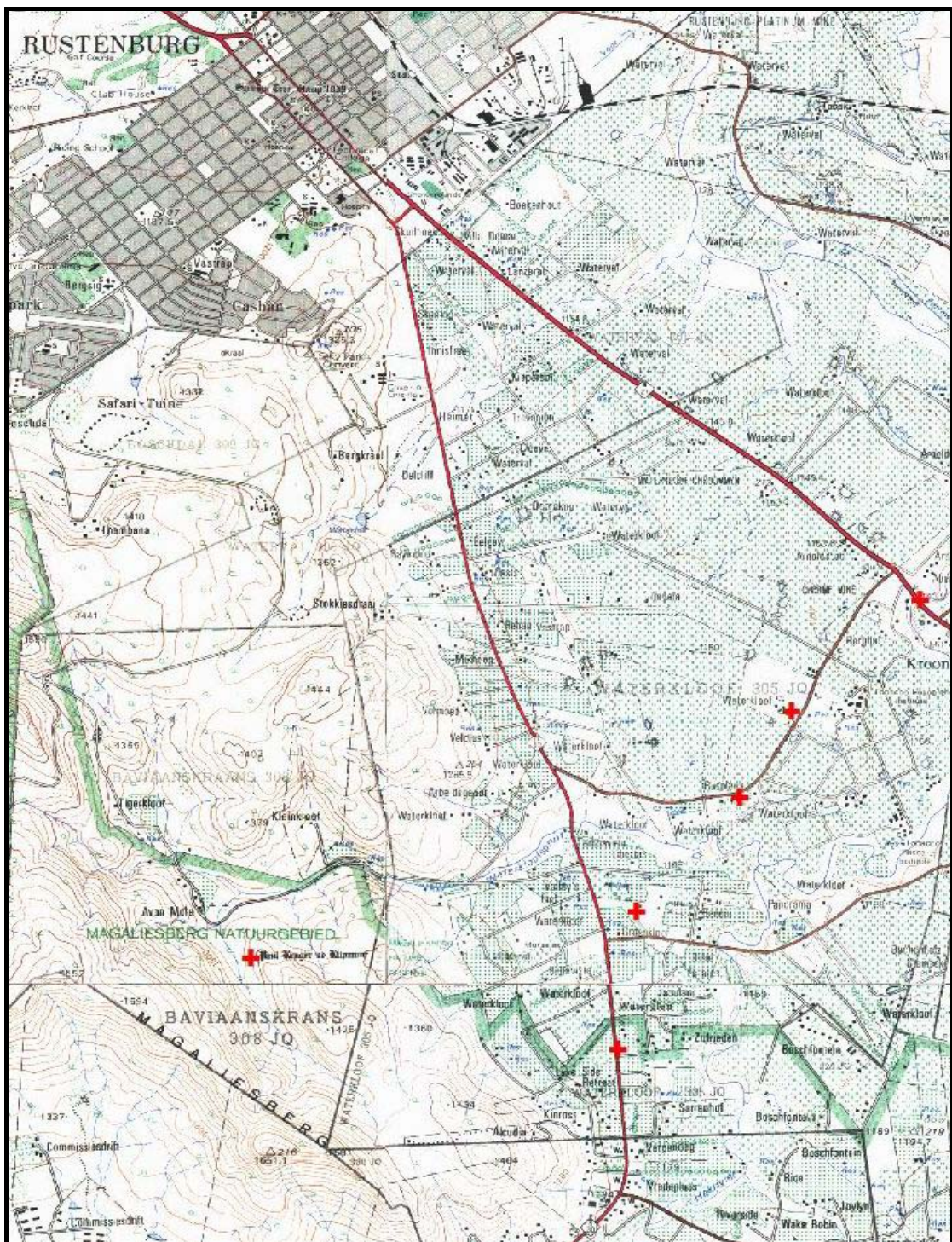


Fig. 2. Map showing the location of known heritage sites in the region (Map 2527CB & 2527CD: Government Printer Pretoria).



Fig. 3. Sluice gate in the old water furrow next to the road.

6. SITE SIGNIFICANCE AND ASSESSMENT

Impact analysis of cultural resources under threat of the proposed development, are based on the present understanding of the development.

The **significance** of a heritage site and artefacts is determined by its historical, social, aesthetic, technological and scientific value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Sites regarded as having low significance are viewed as being recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

One site that is regarded as having significance was identified. This is the old water furrow (see 5.4.3 above). It is regarded as having high significance on a local level.

7. RECOMMENDATIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is proposed to upgrade a section of road.

Past activities in the study area consist of agriculture. Urbanisation is taking place on a large scale.

One site regarded as having significance, was identified. This is an old water furrow that crosses the road on the farm Waterval. It is regarded as having high significance on a local level. If there is to be any impact on it, it should be documented.

Based on what was found and its evaluation, it is recommended that any development can continue in the area, on condition of acceptance of the following recommendations:

- If construction takes place and archaeological sites are exposed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

8. REFERENCES

8.1 Data bases

Heritage Sites Database, Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

National Archives of South Africa

8.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Richardson, D. 2001. *Historic sites of South Africa*. Cape Town: Struik Publishers.

8.3 Maps

1: 50 000 Topocadastral maps – 2527CB, 2527CD

APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value					
Is it important in the community, or pattern of history					
Does it have strong or special association with the life or work of a person, group or organisation of importance in history					
Does it have significance relating to the history of slavery					
2. Aesthetic value					
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group					
3. Scientific value					
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage					
Is it important in demonstrating a high degree of creative or technical achievement at a particular period					
4. Social value					
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons					
5. Rarity					
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage					
6. Representivity					
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects					
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class					
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.					
7. Sphere of Significance			High	Medium	Low
International					
National					
Provincial					
Regional					
Local					
Specific community					
8. Significance rating of feature					
1.	Low				
2.	Medium				
3.	High				

Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(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 assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

The National Heritage Resources Act (Act no 25 of 1999) stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.