

**A SURVEY OF CULTURAL RESOURCES ON THE N4 PLATINUM
FROM PRETORIA (EXISTING N1) WESTWARDS
TO LOBATSE (BOTSWANA)**

TOLL ROAD

For:

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SUMMARY

A survey of cultural resources on the N4 Platinum Toll Road from Pretoria (existing N1) westwards to Lobatse (Botswana)

A survey to establish the nature, extent and significance of cultural resources was made on the N4 Platinum Toll Road from Pretoria (existing N1) westwards to Lobatse (Botswana).

A number of sites of cultural significance were identified, both during the field survey, as well as during a desk top study involving a search in the National Cultural History Museum's Archaeological Data Recording Centre. It is judged that some of these sites will be impacted upon by the proposed development, but with the implementation of proper mitigatory measures it is recommended that the development can continue. A number of recommendations are put forward in section 8 of this report.

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**A SURVEY OF CULTURAL RESOURCES ON THE N4 PLATINUM
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1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by **Steffen, Robertson and Kirsten Consulting Engineers and Scientists** to conduct a screening-type survey of archaeological and cultural historical sites on the N4 Platinum Road from Pretoria (existing N1) westwards to Lobatse in Botswana. The aim of the survey was to locate, identify, evaluate and document the sites, objects and structures of cultural importance found within the boundaries of the proposed development, but also in the general area of the N4 road, concentrating specifically on the sections of new road. The development that is planned is mostly an upgrade of the existing N4 road where most of the activities will be confined to within the existing road reserve. Throughout the length of the project, especially west of the Rustenburg, the road reserve will be widened to 20m. Between Pretoria and Rustenburg however there are also some sections of new road (single and double carriageway). The survey focused almost entirely on these new sections.

2. TERMS OF REFERENCE

The **Terms of Reference** for the study were to:

- 2.1 Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural resources) located in the area of the proposed development.
- 2.2 Assess the significance of the cultural resources in terms of their historical, social, religious, aesthetic, scientific and tourism value.
- 2.3 Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 2.4 Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources, as well as provide cost estimates to deal with these.
- 2.5 Review applicable legislative requirements.
- 2.6 Identify opportunities for the enhancement of ecotourism as a result of the toll road.

2.7 Provide a description of future study needs, cost and time required.

3. CONDITIONS AND ASSUMPTIONS

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

- Cultural resources** are all nonphysical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The **significance** of the sites and artifacts is 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.
- Significance is site-specific and relates to the content and context of the site. 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 an archaeological site is to be treated as sensitive information by the developer, and should not be disclosed to members of the public.
- All recommendations are made with full cognisance of the relevant legislation, in this case the Monuments and Relics Act (1970) of Botswana and the National Monuments Act (No.28 of 1969) of South Africa.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Monuments Act (Act 28 of 1969) and the Environmental Conservation Act (Act 73 of 1989). It is however important to note that new legislation is being prepared and this might come into effect before the end of 1998.

4.1 National Monuments Act

According to this Act the following cultural resources are protected:

- a. Meteorites and fossils
- b. Prehistoric rock art
- c. Prehistoric tools, ornaments and structures
- d. The Anthropological and archaeological contents of graves, rock shelters, caves,

middens etc.

e. Historical sites and archaeological or paleontological finds, material or artifacts

f. Declared national monuments

g. Cemeteries and graves with headstones older than 50 years

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit to do so from the National Monuments Council.

4.2 Environmental Conservation Act

This act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact is to be formulated.

4.3 The White Paper on Heritage Resources

The white paper is currently being discussed by parliament and is destined to be promulgated before the end of 1998. It will replace the current National Monuments Act. The types of sites protected by this act will be more or less the same than that covered by the National Monuments Act, but provides more strict measures of protection. One of the changes to the current act is that all graves, cemeteries and structures older than 60 years will be protected, moving away from the 50 year clause.

5. METHODOLOGY

5.1 Preliminary investigation

5.1.1 Survey of the literature

A survey of 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 were consulted - see list of references below.

5.1.2 Data sources

The **Archaeological Data Recording Centre (ADRC)** of the National Cultural History Museum in Pretoria was consulted.

5.1.3 Other sources

These include unpublished reports of surveys already conducted by the National Cultural History Museum in some of the areas covered by the N4 Platinum Road, as well as information provided by some local property owners and residents in towns such as Groot Marico.

5.2 Field survey

The survey was conducted according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. Special attention was given to the sections of new road, while areas in the proximity of the existing sections were also investigated. All natural features such as prominent hills and outcrops, streambeds, unnatural looking clumps of trees and erosion trenches were investigated as far as possible. It was, however, impossible to investigate every hill, outcrop, streambed or other natural feature. The reasons for this is the fact that large parts of the survey area is under private ownership. Access to properties with potential sites could not always be obtained as gates were locked or the owners were not present. Access roads to properties and sites also could not be located at times. Note was taken, however, of areas which could not be visited and which do have potential for containing sites of cultural importance, and these areas should be included in future studies. Sites close to the road, such as graveyards and monuments, indicated on the 1:50 000 map provided by the client, were also investigated and are included in the survey results.

5.3 Documentation

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

5.4 Presentation of the information

In discussing the results of the survey, a chronological rather than a geographical approach was followed in the presentation of an overview of human occupation and land use in the area. This helps the reader to better understand and facilitate the potential impact of the development. Information on the individual objects, sites, occurrences and structures is presented in Appendix 2 and summarised in Table 1.

6. DESCRIPTION OF THE AREA SURVEYED

The topography is, basically, gently flat open veld with stretches of more dense bush and thorn trees. The most dominant geographical feature is the Magaliesberge, with a few other hills such as Wolhuterskop, Oorzaak kop, Pyramid koppies and the Makadima hills also prominent in the landscape. Large sections of the area has been and are being used for agricultural purposes. Large parts of the survey area has also been developed

¹ 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 correlate it with reference to the physical environment before plotting it on the map.

industrially and for urban settlement, or are in the process of being developed.

The geology of the survey area is varied, with quartzite, shale, sandstone, norite, gabbro, chromite and ferricrete some of the mineral and rock types found. Although large sections of the survey area has been agriculturally disturbed (ploughed, etc.), patches of original thornveld and bushveld still prevail. This vegetation consists of a combination of Springbok Flats Thornveld, Other Turf Thornveld, Kalahari Thornveld, Mixed Bushveld and Sourish Mixed Bushveld. The thornveld is generally open, but tends to thicken up when the grass cover is reduced by grazing mismanagement. The bushveld is largely open savanna with 'Acacia caffra' the dominant tree in a fairly tall and dense grassveld (Acocks, 1975:35, 37-38, 44 & 49-54).

7. DISCUSSION

A fair amount of archaeological and historical research has been done in the survey area (see list of references below). These include field surveys and archaeological excavations. More recently the National Cultural History Museum conducted surveys in the Akasia and Kroondal areas.

7.1 Stone Age

The Stone Age is well represented in the survey area, and sites and stone tools dating from the Early Stone Age right through to the Late Stone Age were identified. Most of these was identified during previous surveys and during the search on the National Cultural History Museum's Archaeological Data Recording Centre. One Middle Stone Age site was identified during the recent survey, on the southwestern side of Oorzaak koppie in the Rustenburg district. It is also important to note that on the whole of the Magaliesberge, the most prominent feature in the survey area, evidence of the Stone Age (ESA, MSA and LSA) are found in abundance. Shale and quartzite found on the Magaliesberge are very suitable for the manufacturing of stone tools, and the number of poorte found here created a very suitable environment for Stone Age people. With migrating animals moving through the poorte, it would have been easy for Stone Age hunters to trap and kill these animals for food.

7.2 Iron Age

The Iron Age are also fairly well represented in the survey area. Again most of the sites found during earlier surveys and on the Museum's Archaeological Data Recording Centre. Sites has been identified previously at Kroondal, in the Wonderboom district, near Warmbaths, in the Akasia area, on Pyramid Koppies and at Derdepoort. Again, the whole of the Magaliesberge are well known for the Iron Age settlement- and iron smelting sites found there. Iron Age sites are also found in abundance in the Pilanesberg area. During the present survey a large Iron Age settlement site was identified on the

northwestern side of Oorzaak koppie. This site and the whole of the hill should be thoroughly investigated at a later stage. Other hills that warrant further research are the Pyramid, Wolhuters and Makadima hills. From sources it is known that Wolhuterskop was home to the Po, an early Ndebele migrant group who first settled at Wonderboom near Pretoria and then moved to the Tlhogokgolo Mountain (Wolhuterskop) (Carruthers 1990; 234). Evidence of their settlement will surely be found at Wolhuterskop. A resident of Groot Marico also spoke about a large Iron Age settlement- and copper smelting site on a farm close to the town (Personal comment: I. Fairman). This site and information should also be investigated and verified.

7.3 Historic

The Historical period also features prominently in the survey area. A few sites were identified during the recent survey, while a number is shown on the 1:50 000 maps of the area. Historical sites are also documented in the Archaeological Data Recording Centre of the National Cultural History Museum. Literary sources contain a lot of information on the historical period in the survey area as well. Six sites were identified during the survey, including the Lutheran Church (1896) at Kroondal, an old church in Groot Marico, war graves (1899-1902) and the grave of Diederik Coetzee (1820-1891), one of the founders of Zeerust. Other historical sites, previously identified and documented, include British blockhouses at Wonderboom, Hornsnek and in Rustenburg and sites in Akasia, Wonderboom, Pretoria, Zeerust and Groot Marico. All the towns on the N4 Platinum Road also contains sites and structures of historical importance such as churches, homesteads and graveyards, and even though these sites are not included in the survey results, they should be considered for further investigation. The Magaliesberge was also important during historical times, especially during the Anglo-Boer War (1899-1902). For example, Wolhuterskop features prominently as one of the sites where Genl de Wet escaped from the British forces that were trying to capture him and his men.

8. CONCLUSIONS AND RECOMMENDATIONS

The proposed N4 Platinum Toll Road from Pretoria westwards to Lobatse runs through an area rich in prehistory and history. The Magaliesberge in particular, which dominates large parts of the study area, are fairly well documented regarding this. Most of the area has seen human activity since the Early Stone Age through the Iron Age up to recent times. A relatively large number of archaeologically and historically (culturally) important sites have been identified, documented and researched in the area during the past, while a number was also identified during this survey. Notwithstanding, all the possible sites has not been identified as yet. As this was only a scoping survey and because of the problem of gaining access to sites on private properties due to gates being locked or unknown access routes, certain areas could not be investigated. As the possibility exists that these areas contain sites of cultural importance, further studies are therefore needed.

8.1 Sites impacted upon negatively by the development

The following sites will be negatively affected by the road development:

- (a) the LSA site on the farm Buffelspoort 343 JQ (no.16 in Appendix 2).
- (b) the British War Graves on the farm Brakspruit (no.25 in Appendix 2).
- (c) the Battle of Kleinfontein monument approximately 30km east of Zeerust (no.26 in Appendix 2).

Mitigatory measures will have to be implemented concerning these sites, and the following recommendations are put forward:

- (i) Further, in detail, investigation of these sites must be carried out.
- (ii) Controlled sampling of the LSA site at Buffelspoort should be conducted.
- (iii) Recommendations regarding the preservation and development of these sites for the enhancement of ecotourism will be put forward in a report after completion of the investigation.

The time required to complete the study of these sites are approximately 5 work days) with the following costs:

5 workdays x 8 hours per day @ R120-00 per day	R4 800-00
Travel approx. 600km @ R1.95 per km	R1 170-00
Food & Lodging	R1 200-00
Report	R0 500-00
Material & Equipment	<u>R0 750-00</u>
TOTAL (Excl.Vat)	<u>R8 420-00</u>
With Vat	R9 598-80

8.2 Sites impacted upon positively by the development (ecotourism)

Some sites will be positively affected by the road development, mainly because of the effect on their tourism potential. The sites are:

- (a) the four sites on the farm Kroondal 304 JQ (no.1 - 4 in Appendix 2).
- (b) the Early, Middle and Late Stone Age site at Wonderboom (no.5 - 7 in Appendix 2).
- (c) the Hulton house, now a restaurant, on the farm Hartebeesthoek 303 JR (no.13 in Appendix 2).
- (d) Hollard house on Hartebeesthoek 303 JR (no.14 in Appendix 2).
- (e) the main building at the Onderstepoort Research Institution (no.15 in Appendix 2).
- (f) the old Lutheran Church in Kroondal (no.17 in Appendix 2).
- (g) the grave of Diederik Coetzee near Zeerust (no.18 in Appendix 2).
- (h) the War graves on the farm Klaarstroom 237 JP (no.19 & 20 in Appendix 2).
- (i) the British blockhouse in Warmbaths (no.22 in Appendix 2).
- (j) the Iron Age site on the northwestern side of Oorzaak kop (no.23 in Appendix 2).
- (k) sites no.25 and 26 in Appendix 2.
- (l) the grave of dr.H.C.M.Fourie near Groot Marico (no.27 in Appendix 2).
- (m) the old Dutch Reformed Church in Groot Marico (no.28 in Appendix 2).
- (n) the two British blockhouses in Rustenburg (no. 29 & 30 in Appendix 2).
- (o) Wolhuterskop
- (p) all the historical sites in Rustenburg, Swartruggens, Groot Marico and Zeerust.

Because of their ecotourism potential, mitigatory measures regarding these sites needs to be implemented. Although at some of the sites no further investigation is necessary, most warrant further in detail study. The following recommendations are put forward:

- (i) Further investigation of the sites must be conducted, specifically those that need further study and/or controlled sampling.
- (ii) Some of the sites has to developed in order to enhance their ecotourism potential. This must be done in compliance to certain required minimum standards. Recommendations regarding this development will be forwarded in a report after completion of the detail study of the sites.

The time required for the completion of the above mentioned study is approximately 1 month (22 work days). The following costs are estimated:

22 Work days x 8 hours per day @ R120-00 per day R21 120-00
 Travel approximately 1200km @ R1.95 per km R 2 340-00
 Food & Lodging R 2 500-00
 Report R0 750-00
 Material & Equipment R 3 000-00
 TOTAL (Excl. VAT) R29 710-00
 With VAT R33 869-40

8.3 Archaeological excavations

It is important to note that archaeological excavations can be recommended at some of the sites that will be investigated in the above mentioned two studies. Depending on the number and extent of sites, a cost estimate and time required for completion of such excavations can be provided at a later stage.

Summary of impact description and assessment of the N4 Platinum Road (See Appendix 2)

No.	Type	Significance of impact	Certainty of prediction	Status of impact	Recommended management action
1	Stone Age	Low	Definite	Positive	(2)-controlled sampling
2	Iron Age	Medium	Definite	Positive	(4)-preserve site if possible
3	Iron Age	Medium	Definite	Positive	(4)-preserve site if possible
4	Iron Age	Medium	Definite	Positive	(4)-preserve site if possible
5	Stone Age	Low	Definite	Positive	(1)-no further investigation
6	Stone Age	Low	Definite	Positive	(1)-no further investigation
7	Stone Age	Low	Definite	Positive	(1)-no further investigation
8	Stone Age	Low	Definite	Neutral	(1)-no further investigation
9	Iron Age	Low	Definite	Neutral	(1)-no further investigation
10	Iron Age	Low	Definite	Neutral	(1)-no further investigation
11	Historic	Low	Definite	Neutral	(1)-no further investigation
12	Iron Age	Low	Definite	Neutral	(1)-no further investigation
13	Historic	Medium	Probable	Positive	(1)-no further investigation
14	Historic	Medium	Probable	Positive	(1)-no further investigation
15	Historic	Low	Definite	Positive	(1)-no further investigation
16	Stone Age	Medium	Definite	Negative	(2)-controlled sampling
17	Historic	High	Definite	Positive	(1)-no further investigation
18	Historic	High	Definite	Positive	(2)-controlled sampling
19	Historic	Low	Definite	Positive	(1)-no further investigation

20	Historic	Low	Definite	Positive	(1)-no further investigation
21	Historic	Low	Definite	Neutral	(1)-no further investigation
22	Historic	Low	Definite	Positive	(1)-no further investigation
23	Iron Age	Low	Definite	Positive	(2)-controlled sampling
24	Stone Age	Low	Probable	Neutral	(2)-controlled sampling
25	Historic	High	Definite	Negative/ Positive	(2)-controlled sampling
26	Historic	High	Definite	Negative/ Positive	(2)-controlled sampling
27	Historic	Low	Definite	Positive	(1)-no further investigation
28	Historic	Low	Definite	Positive	(2)-controlled sampling
29	Historic	Low	Definite	Positive	(1)-no further investigation
30	Historic	Low	Definite	Positive	(1)-no further investigation
31	Historic	Low	Definite	Neutral	(1)-no further investigation
32	Historic	Low	Definite	Neutral	(1)-no further investigation
33	Historic	Low	Definite	Neutral	(1)-no further investigation
34	Historic	Low	Definite	Neutral	(1)-no further investigation
35	Historic	Low	Definite	Neutral	(1)-no further investigation

9. REFERENCES

9.1 Data base

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.

9.2 Interviews

Me.I. Fairman, Teacher in Groot Marico. 1998-03-04.

9.3 Literary sources

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Wessels, A. 1991. **Die Anglo-Boereoorlog 1899-1902. 'n Oorsig van die militêre verloop van die stryd**. Oorlogsmuseum van die Boererepublieke: Bloemfontein.

9.4 Maps

Maps supplied by client (SRK).

10. PROJECT TEAM

Principal Investigator - dr. J.A. van Schalkwyk

Field Supervisor - A.J. Pelsler
A.C. van Vollenhoven

**APPENDIX 1: STANDARDIZED SET OF CONVENTIONS USED TO ASSESS
THE IMPACT OF PROJECTS ON CULTURAL RESOURCES**

Significance of impact:

- lowwhere the impact will not have an influence on or require to be significantly accommodated in the project design
- mediumwhere the impact could have an influence which will require modification of the project design or alternative mitigation
- highwhere 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: Over 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only over 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

Status of the impact:

With mitigation and the resultant recovery of material, a negative impact can be turned positive. Describe whether the impact is positive (a benefit), negative (a cost) or neutral

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 necessary
- 2 = further investigation/controlled sampling of the site necessary
- 3 = test excavation to determine if further work is necessary
- 4 = preserve site if possible, otherwise extensive archaeological research necessary
- 5 = 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: SURVEY RESULTS

[See Appendix 1 for explanation of the conventions used in assessing of the cultural remains]

1. Site number: 2527CB/10

Description: A Stone Age site on the farm Kroondal 304 JQ with Middle Stone Age stone tools.

Location: The site is located at 25° 42' 31.2" S; 27° 21' 26.9" E

Discussion: MSA tools found in concentration. Probably out of context.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (2) - controlled sampling of the site necessary.

2. Site number: 2527CB/11

Description: Extensive Late Iron Age stone walling on the farm Kroondal 304 JQ. Also recent fire places.

Location: 25° 42' 43.6" S; 27° 21' 18.8" E

Discussion: Possibly part of larger settlement complex. The recent fire places could indicate use of site for initiation.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible, otherwise extensive archaeological research necessary.

3. Site number: 2527CB/12

Description: Late Iron Age stone walling and terraces on the farm Kroondal 304 JQ.

Location: 25° 42' 57.8" S; 27° 19' 39.7" E

Discussion: Also probably part of larger complex. Found next to and on the foot of one of the hills where the tailings dam is planned.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible, otherwise extensive archaeological research necessary.

4. Site number: 2527CB/13

Description: Late Iron Age stone walling on the farm Kroondal 304 JQ. Also potsherds found on site.

Location: 25° 42' 06.2" S; 27° 20' 05.8" E

Discussion: Might still form part of the larger complex. The potsherds can be indication of an archaeological deposit.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible, otherwise extensive

archaeological research necessary.

5. Site number: ADRC 4822

Description: Early Stone Age site, the famous Wonderboom Early Stone Age site.

Location: 25° 20' 30" S 28 23' 00" E

Discussion: Even though the road will not directly impact on the site, it does run close by the site and will therefore be accessible to more people. Correct marketing and development at the site can enhance its tourism potential.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

6. Site number: ADRC 4823

Description: Middle Stone Age site, situated close to the ESA site.

Location: 25° 20' 30" S 28 23' 00" E

Discussion: The same as no.6 above. MSA artifacts found on same site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

7. Site number: ADRC 4824

Description: Late Stone Age site, situated close to ADRC 4822&3.

Location: 25° 20' 30" S 28 23' 00" E

Discussion: The same as no.5 and 6 above. LSA artifacts found on same site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

8. Site number: 5.1.3

Description: Late Stone Age site on the farm Hartebeesthoek 303 JR, on the Magaliesberg just east of Hornsnek.

Location: 25° 40' 55" S 28 04' 32" E

Discussion: The site are not endangered by the road development, and are not important enough to warrant any development and use for tourism.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

9. Site number: 5.2.1

Description: Late Iron Age site on the farm Hartebeesthoek 303 JR.

Location: 25° 40' 56.5" S 28° 04' 38.8 E

Discussion: A settlement complex with 5 circular and semi-circular stone walls. 200 meters southwest another 4 circles. The road will not have any impact on the site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

10. Site number: 5.2.2

Description: Late Iron Age, situated on the farm Klipfontein 268 JR.

Location: 25° 36' 33.4" S 28° 05' 00" E

Discussion: Extensive settlement site. Pottery found indicates a Late Iron Age dating. The site could be linked to the complex of sites found at Onderstepoort and Medunsa. The site is not endangered by the road development.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

11. Site number: 5.2.3

Description: Historic site on the farm Witfontein 301 JR.

Location: 25° 41' 23" S 28° 07' 39" E

Discussion: Situated east of the cutting for the Pretoria/Mabopane highway. A circular terrace, possibly a platform for a rondavel. Small pieces of pottery found here. Site very recent and dates to the early half of the 20th century. The development will have no impact on the site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

12. Site number: 5.2.4

Description: Late Iron Age site on the farm Witfontein 301 JR.

Location: 25° 40' 58.3" S 28°08' 42.2" E

Discussion: A settlement complex consisting of a few stone walls, as well as a circular structure that could have been a cattle kraal. Again, the road will have no impact on the site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

13. Site number: 5.3.7

Description: Historical site on the farm Hartebeesthoek 303 JR.

Location: No GPS reading was taken during this particular survey.

Discussion: A structure known as the "Sinkhuisie" or Hulton house, now a restaurant. The road could have an impact on the site, as more people would have access to it. Development of the site and marketing of it will however be needed.

Significance of impact: Medium

Certainty of prediction: Probable

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

14. Site number: 5.3.8

Description: Historical site on the farm Hartebeesthoek 303 JR.

Location: No GPS reading.

Discussion: Hollard House. Farmstead with associated buildings. One of the few farm buildings dating to Akasia's early farming era. Also associated with William Emil Hollard, after which Hollard street in Johannesburg is named. The rest the same as for no.13.

Significance of impact: Medium

Certainty of prediction: Probable

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

15. Site number: 235

Description: Historical site

Location: 25° 39' 00" S 28° 10' 39" E

Discussion: The main building of the Onderstepoort Research Institution. The road will have no impact on the site, but there are tourist attractions in the local Museum exhibitions.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

16. Site number: ADRC 144

Description: Late Stone Age site on the farm Buffelspoort 343 JQ in the Rustenburg district.

Location: 25° 46' 00" S 27° 29' 00" E

Discussion: The road will have a definite impact, as the site is situated close by to it. It is however not a very large and important site, and especially of no value for tourism.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

17. Site number: 209

Description: Historical site near Rustenburg (in Kroondal).

Location: 25° 42' 31" S 27° 21' 27" E

Discussion: Old Lutheran Church dating to 1896. Associated with the Hermannsburg Mission in Kroondal. The structure is a proclaimed National Monument. The road development will have a big impact, as the road passes next to the site.

Significance of impact: High

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

18. Site number: 2526CA2

Description: Historical site on the farm Klein Maric's Poort 242 JP near Zeerust.

Location: 25° 32' 40" S 26° 06' 20" E

Discussion: Grave of Diederik Coetzee (1820-1891), co-founder of Zeerust. Fifteen other unidentified graves also on graveyard. Site in very bad condition, and information sign next to the road nearly undiscernible. The road will have an impact, as it passes right next to the site. Development and caretaking of the site will make it tourism friendly.

Significance of impact: High

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

19. Site number: 2526CA3

Description: Historical site on the farm Klaarstroom 237 JP in the Marico district.

Location: 25° 32' 55" S 26° 00" 15" E

Discussion: War Graves (1899-1902). The road is not situated close enough to the site to have a real impact, but the site could be considered for tourism.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

20. Site number: 2526CA4

Description: Historical site on the farm Klaarstroom 237 JP in the Marico district.

Location: 25° 33' 40" S 26° 12' 50" E

Discussion: The same as for no.19 above.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

21. Site number: 237

Description: Historical site in Zeerust.

Location: 25° 32' 00" S 26° 04' 00" E

Discussion: Church of St.John the Baptist. No impact.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

22. Site number: 229

Description: Historical site in Warmbaths.

Location: 24° 52' 18" S 28° 17' 00" E

Discussion: British Blockhouse (1899-1902) in Paul Sauer Road in Warmbaths. No impact, but could be used as tourist destination.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

23. Site number: no.1

Description: Iron Age site on the northwestern side of Oorzaak kop on the farm Rietfontein 338 JQ.

Location: 25° 44' 23.9" S 27° 20' 51.2 E

Discussion: Large Iron Age site. Stone walls, possibly remains of large settlement complex. Walls in very good condition. Road should not have a direct impact on the site, as it is situated a reasonable distance from the road. For ecotourism the site is, however, suitable, being of large scale and in a good condition and easily accessible from the road. Further research should be carried out, with the total area to be investigated.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

24. Site number: no.2

Description: Middle Stone Age site on the southwestern side of Oorzaak kop on the farm Rietfontein 338 JQ.

Location: 25° 44' 50" S 27° 20' 39.3" E

Discussion: Fairly large number of MSA flakes and tools, in a erosion trench. A few undecorated potsherds were identified as well. No direct impact by development, and also not large and important enough to warrant use as tourist destination.

Significance of impact: Low

Certainty of prediction: Probable

Status of impact: Neutral

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

25. Site number: no.4

Description: Historical site on the farm Brakspruit in the Marico district.

Location: 25° 39' 04.3" S 26° 42' 43.5" E

Discussion: British War Graves (1899-1902). 19 graves of soldiers of different units. Approximately half died between 4&5 August 1900 and the other between 20&22 October 1901. More recent graves (early to mid 20th century graveyard next to this (on the same lot), and a modern graveyard and a Muslim one a few meters east of this graveyard. The graveyard with the war graves is very neglected. Site right next to road, and will be impacted upon by the development. Can be utilized for tourism.

Significance of impact: High

Certainty of prediction: Definite

Status of impact: Negative/Positive

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

26. Site number: no.6

Description: Historical site approximately 30km east of Zeerust.

Location: 25° 32' 39.9" S 26° 06' 11.9" E

Discussion: Monument to the Battle of Kleinfontein (24.10.1901). In very bad condition, with information sign next to road also very badly preserved. With the site being next to the road, it will be impacted upon by the development. As a tourist visiting point it will be useful, but should therefore be developed and curated.

Significance of impact: High

Certainty of prediction: Definite

Status of impact: Negative/Positive

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

27. Site number: no.7

Description: Historical site about 3km west of Groot Marico.

Location: 25° 35' 39.9" S 26° 23' 43.1" E

Discussion: Grave of dr.H.C.M.Fourie, one of the translators of the Bible in Afrikaans. Also grave of his wife, a monument for the 50th year of the Bible in Afrikaans (1938-1988) and a monument for the French Huguenots (1688-1988). Site in relatively good condition. The road will not directly impact on the site, but it can be used for tourism.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

28. Site number: no.8

Description: Historical site in Groot Marico.

Location: 25° 33' 56.3" S 26° 24' 38.8 E

Discussion: Old Dutch Reformed Church building in the town. Foundation stone laid by ds.U.D.Roos on 19 February 1938. In a relatively good condition, repairs are being done to the building. No impact on the site by the road.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (2) - further investigation/controlled sampling of the site necessary.

29. Site number: 7.2.18d

Description: Historical site in Rustenburg.

Location: 25° 41' 26.3" S 27° 14' 41.2" E

Discussion: British blockhouse (1899-1902). Non-formal, circular stone structure with walls 2,5m in height. Unique type found only in the Rustenburg area. Will not be affected by the road, but can be used for tourism.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

30. Site number: 7.2.18e

Description: Historical site in Rustenburg.

Location: 25° 41' 28.1" S 27° 14' 30.7" E

Discussion: Blockhouse (1899-1902). Remains of an oval-shaped, non-formal stone blockhouse. Walls also about 2,5m high. The same type as 7.2.18d.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (1) - no further investigation necessary.

31. Site number: 7.2.19a

Description: Historical site on the Magaliesberge at Hornsnek-east.

Location: 25° 40' 27.1" S 28° 04' 29" E

Discussion: Remains of a non-formal, circular stone base of a blockhouse. A stone wall are found all around it. The road will have no impact on the site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

32. Site number: 7.2.19b

Description: Historical site on the Magaliesberge at Hornsnek-east.

Location: 25° 40' 52.1" S 28° 04' 15.8" E

Discussion: Remains of a non-formal, circular stone base of a blockhouse. A stone wall approximately 1,2m in height are found around the structure. Situated west of 7.2.19a. The road will have no impact on the site.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

33. Site number: 7.2.19c

Description: Historical site on the Magaliesberge at Hornsnek-east.

Location: 25° 40' 55" S 28° 04' 12" E

Discussion: Remains of a non-formal, circular stone base of a blockhouse. Walls about 0,5m in height. Situated west of 7.2.19b. No impact.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

34. Site number: 7.2.19d

Description: Historical site on the Magaliesberge at Hornsnek-east.

Location: 25° 40' 56.1" S 28° 04' 08.4" E

Discussion: Remains of a non-formal, circular stone base of a blockhouse. Situated southwest of 7.2.19c. No impact by the road.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

35. Site number: 7.2.19e

Description: Historical site on the Magaliesberge at Hornsnek-west.

Location: 25° 40' 10.5" S 28° 03' 53.7" E

Discussion: Remains of a non-formal, circular stone base of a blockhouse. A stone wall are found to the north, east and south of the structure, with natural rock enclosing it on the western side. No impact.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - no further investigation necessary.

APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

STONE AGE

Early Stone Age (ESA) 2 000 000 - 150 000 Before Present

Middle Stone Age (MSA) 150 000 - 30 000 BP

Late Stone Age (LSA) 30 000 - until c. AD 200

IRON AGE

Early Iron Age (EIA) AD 200 - AD 1000

Late Iron Age (LIA) AD 1000 - AD 1830

HISTORICAL PERIOD

Largely since the late 1840's to the mid 20th century.