



**DEPARTMENT: NGT HERITAGE MANAGEMENT
SOLUTIONS**

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PROPOSED CONSTRUCTION OF PETRUSDAM 88KV SWITCHING STATION,
WITHIN THE RAMOTSHERE MOILOA LOCAL MUNICIPALITY, NORTH WEST
PROVINCE.

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SPECIALIST REPORT:

Heritage Impact Assessment for the Proposed
Construction of Petrusdam 88KV Switching Station,
within the Ramotshere Moiloa Local Municipality,
North West Province, South Africa

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DECLARATION OF INDEPENDENCE

This report has been compiled by Funani Mpande for NGT Holdings (Pty) Ltd. The views expressed in this report are entirely those of the author and no other interest was displayed during the decision-making process for the project.

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EXECUTIVE SUMMARY

NGT has been appointed by Baagi to conduct a heritage impact assessment (HIA) study for the proposed Switching Station on Portion 14 of the Farm Roode Kopjes Put 32. The site is situated 10Km north of the town of Zeerust and west of Driefontein within the Ramotshere Moiloa Local Municipality, North West Province, South Africa (*Figure 1*). This heritage report forms part of specialists' inputs required to fulfil the Basic Assessment Report (BAR) process. The appointment of NGT is in terms of the National Heritage Resources Act (NHRA), No. 25 of 1999 and the National Environmental Management Act (NEMA), No 107 of 1998.

The standard NGT heritage study process entailed conducting a detailed background information search of the receiving environment. This looks at previous studies conducted in and around the proposed study area. Conducting onsite investigation to identify heritage resources and assess impacts of the proposed development on the identified heritage resources, and make recommendations on how the identified resources should be managed and/or mitigated to avoid them being negatively impacted by the development activities.

The survey of the proposed development area took place on the 19th September 2017, it was conducted by Nkosinathi Tomose. No heritage resources were identified on both Options for the proposed Switching Station. Based on the survey and literature review process the following conclusions and recommendations are made:

Conclusions:

Based on the result of literature review it is concluded that the region in and around Zeerust is known to contain archaeological and historic heritage resources. The physical survey of the proposed development area, for both Option 1 and Option 2, however did not yield any of the known archaeological and heritage resources. The study area is disturbed from previous quarrying activities associated with either the construction or rehabilitation of the nearby road. Based on this, it is concluded that the proposed development will not negatively impact on any archaeological or cultural heritage resources – none of these resources were found within the receiving environment.

Recommendations:

Based on the above conclusions about both Option 1 and Option 2, the following recommendations are made:

- it is recommended that both SAHRA and the NW-PHRA grant the project a Positive Review Comment and allows the development to proceed.
- It is however, recommended that should any archaeological and/or heritage resource in form of Chance Finds (i.e. resources that are concealed in nature that were not identified by the current survey but which may be brought to earth surface through excavation activities associated with the proposed development) be identified during construction phase of the project, the ECO should report them to the nearest SAHRA office or museum or call an archaeologist and/or heritage specialist to investigate the finds and make necessary recommendations.

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LIST OF ABBREVIATIONS

ACRONYMS	DESCRIPTION
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
ARCH	Archaeological
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
GPS	Global Positioning System
HIA	Heritage Impact Assessment
NHRA	National Heritage Resources Act
NEMA	National Environmental Management Act
NW-PHRA	North West Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency
WOM	Without Mitigation
WM	With Mitigation

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TERMS AND DEFINITIONS

Archaeological resources

These include:

- Material remains resulting from human activities 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;
- 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 10m of such representation;
- 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 as defined in the Maritimes Zones Act, 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;
- Features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- Construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- Carrying out any works on or over or under a place;
- Subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- Constructing or putting up for display signs or boards; any change to the natural or existing condition or topography of land;
- And any removal or destruction of trees, or removal of vegetation or topsoil.

Heritage resources : This means any place or object of cultural significance.

1. INTRODUCTION

1.1. The Nature and Extent of the Proposed Development (The Petrusdam 88kV Switching Station)

Baagi is conducting a BAR for the proposed construction of Petrusdam 88kV Switching Station on Portion 14 of the Farm Roode Kopjes Put 32. The study area is situated 10Km north of the town of Zeerust and west of Driefontein within the Ramotshere Moiloa Local Municipality, North West Province (*Figure 1*). The study area covers a total of more than 5000m² (i.e. each alternative covers a hectare) and triggers a heritage study in terms of Section 38 (3) of the HRA, No. 25 of 1999 and Section 24 of the National Environmental Management Act, No. 107 of 1998 (as Amended in 2014).

The current study is an HIA (Exclusive of PIA) and it assesses which the heritage value and fabric of the affected environment. The study involves a literature review and survey of the affected environment.

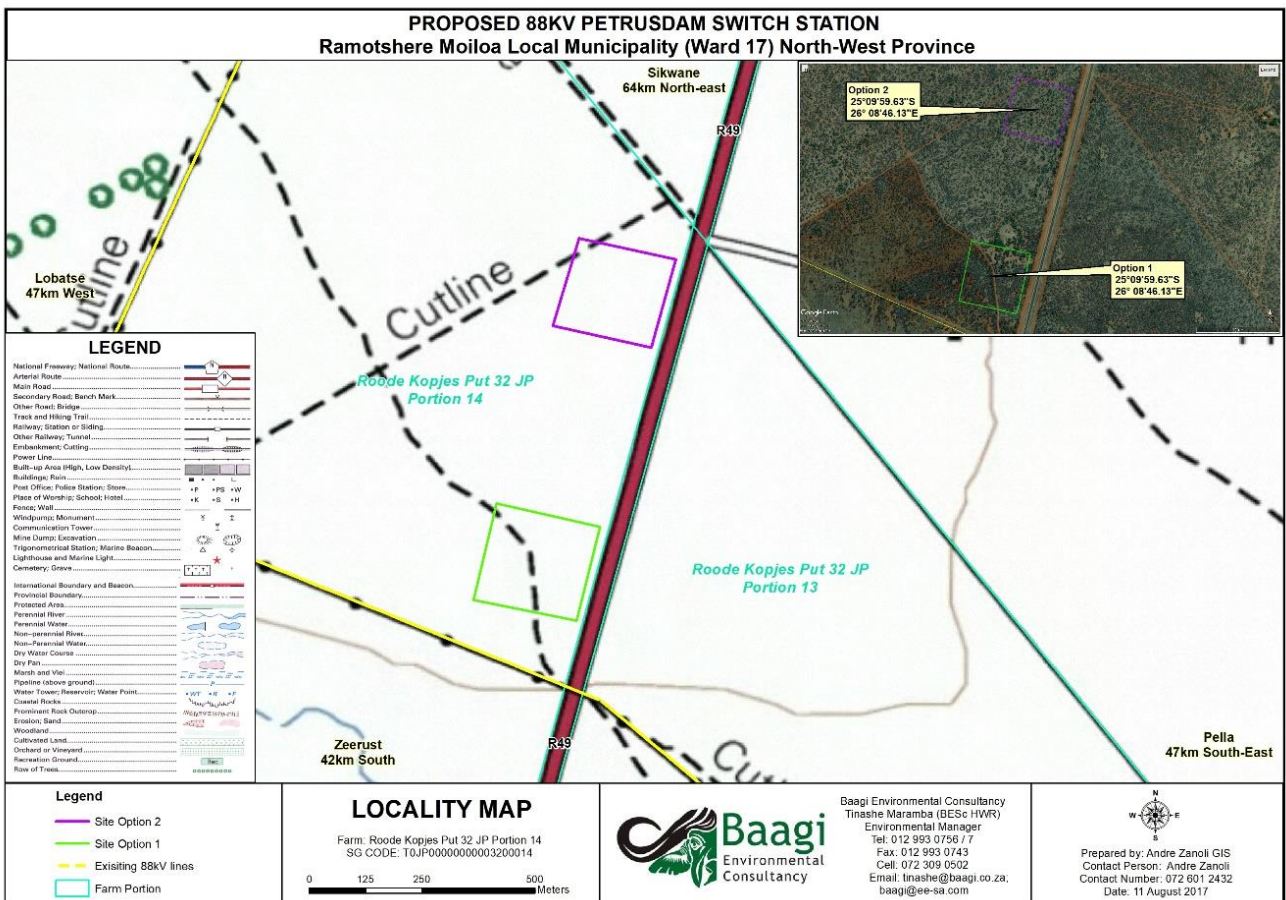


Figure 1- Locality map of proposed Petrusdam Switch Station

1.2. Terms of Reference for the Appointment of Archaeologist and Heritage Specialist

The nature and the size of the proposed development exceeds a total area of more than 5000m² and requires that HIA be conducted. The HIA is conducted in terms of Section 38 (3) of the NHRA, No. 25 of 1999. This prescript of the Act state that: “the responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) An assessment of the impact of the development on such heritage resources;
- (d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) The result of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.”

Eskom appointed Baagi as lead environmental assessment practitioners (EAP) and project managers to manage the BAR for the proposed Petrusdam Switch Station. Baagi appointed NGT as the lead cultural resources management (CRM) consultant to conduct and manage the HIA process. Funani Mpande, Archaeologist and Heritage Consultant for NGT, conducted the HIA study for the proposed development. The appointment of NGT as an independent CRM firm is in terms of the NHRA, No. 25 of 1999.

1.3. Legal Requirements for Completion of the Study

The NHRA, No. 25 of 1999 sets norms and standards for the management of heritage resources in South Africa. Section 38 (3) of the NHRA, No. 25 of 1999 informs the current HIA study.

2. ENVIRONMENTAL CONTEXT AND PRESENT IMPACT OF THE DEVELOPMENT SITE ON THE REGION

2.1. Project Location

The proposed development area is situated on the R49 and can be accessed via the N4 from Zeerust. The area does not have any surrounding infrastructure except existing 88kV powerlines. The proposed development area is mostly covered in grass and acacia trees.

Table 1- Site Location and Property Information

Location of Petrusdam Switch Station	
Name of affected property	Roode Kopjes Put 32
Street location	R49
Erf or farm number/s	Portion: 14
Town or District	Zeerust
Responsible Local Authority	Ramotshere Moiloa Local Municipality
Ward	17
Magisterial District	Ngaka Modiri Molema District Municipality
Region	North West Province
Country	South Africa
Site GPS coordinates	<p>Option 1</p> <ul style="list-style-type: none"> • $-25^{\circ} 09'59.63''S$; $26^{\circ} 08'46.13''E$ - <p>Option 2</p> <ul style="list-style-type: none"> • $-25^{\circ} 09'36,95''S$; $26^{\circ} 08'52, 61''E$

2.2. Description of the Affected Environment

Access:

- The site can be access on N4 from Zeerust towards the north of Zeerust via R49

General landscape setting:

- The study area is situated within a game farm
- The two Options are characterised by long grass and acacia trees

The following chapter outline the methodology we have used to assess the current site impacts and cumulative impacts that will result from the proposed project on the identified historic sites.

3.METHODOLOGY

3.1. Approach to the Study

Funani Mpande, Archaeologist and Heritage Consultant for NGT compiled this HIA report. It is conducted for the proposed construction of Petrusdam 88kV Switching Station.

3.2. Step I – Literature Review (Desktop Phase)

Background information search for the proposed development took place following the receipt of appointment letter from the client. Sources used included, but not limited to published HIA studies, academic books and the internet about the site and the broader area in which it is located. Interpretation of legislation (the NHRA, No. 25 of 1999) and local by-laws forms form the backbone for the study.

3.3. Step II – Physical Survey

The survey of the site took place on the 19th September 2017. It was conducted by Nkosinathi Tomose, Principal Consultant for NGT.

- The aim of the survey was to identify sites and resources of heritage importance within the site;
- To record and document them using applicable tools and technology;
- The physical survey was deemed necessary since desktop study did not yield any information about presence of heritage resources on site and the surrounding environment;
- The survey focused on identifying of traces of archaeological artefacts

The following technological tools were used for documenting and recording identified resources on site:

- Garmin GPS (i.e. Garmin 62s) – to take Lat/Long coordinates of the identified sites and to track the site.
- Samsung – to take photos of the affected environment and the identified sites.
- The locality map and KML file from the client was used to identify proposed development footprint

3.4. Step III – Report Writing

The final step involved compilation of the report using desktop research as well as the physical survey results.

4. LITERATURE REVIEW

4.1. Cultural Landscape of Zeerust

The study area is situated in close proximity to the Town of Zeerust. The establishment of Zeerust is directly linked to the Great Trek dated to the 1800. During the 18th century Voortrekkers moved into the Farm Hazenjacht and established the Town of Zeerust in 1867. However, it was officially proclaimed a town in October 1880. Then it was named Coetzee-Rust after the owner of the farm Diederick J Coetzee (Raper 2004: 415). Historical attractions in this town include the St John the Baptist church which was built in 1893. In the 1980s the church was a national monument, it is the oldest surviving church in the Transvaal (Leigh, 1987). With the promulgation of the NHRA in 1999 sites such as this one became provincial heritage sites under the custodianship of the provincial heritage authorities. Other historical attractions include Dr. Livingstone's first southern African mission stations namely the Livingstone Mission Lehurutshe, the Hermannsburg Mission Lehurutshe (1859) and the Dinokana Mission Lehurutshe (1889) (Showme, 2008/9).

Archaeology

In terms of archaeology, archaeological sites have been identified east of the Town of Zeerust. For example:

- A few kilometers east of Zeerust near Groot Marico there are some rock engravings sites (Bergh, 1999).
- East of Zeerust towards Brits Iron Age sites that have been classified under the Later Iron Age have been documented (Bergh, 1999).
- North of Zeerust, 18th Century Iron Age stone walls have been documented in Kaditshwene and Tshwenyane. These stone walls are associated with the BaHurutshe stone walled sites in the area (Bergh, 1999).

An assessment conducted by Pelsier (2013: 15-16; 18-20) identified a number of Late Iron Age stone walled sites and features in the Zeerust area. According to Pelsier, Early Iron Age and Middle Iron Age artefacts such as stone tools are commonly located in low-density regions close to the river banks and on the outcrops foot and small hills (ibid). 4. STUDY RESULTS

The results of the current study are based on the findings of literature review and the survey. The literature review yielded information about historic events leading to the establishment of the Town of Zeerust in the 18th Century. It also yielded information about the known archaeological resources in the region based on the assessment of previous HIA studies conducted in the broader region in which the proposed development area is situated. A context in which archaeological resources, predominantly Iron Age sites are situated is given.

The results of the physical survey did not yield any archaeological or historical resources within the development footprint. The study area has previously been disturbed through excavation activities associated with road construction. The receiving environment show signs of quarrying for gravels needed to either rehabilitate or construct the nearby road. None of the heritage and archaeological resources yielded in the literature review were identified on site.

Below are pictures showing the general landscape setting of the receiving environment within both Option 1 and Option 2 as shown in Figure 1 above:



Figure 2- Signage of the game farm in which the two site Options are situated. The signage is at the entrance to the study area



Figure 3- Grass and acacia trees that characterised both alternatives. Note existing Eskom Powerline in the background.



Figure 4- Exposed layer of gravel. No stone tools or material culture was found



Figure 5- Road within the farm and it cuts across Option 1



Figure 6- Traces of quarry wall from previous road construction or rehabilitation activities



Figure 7- Patch of exposed layer of soil which was surveyed for archaeological artefacts



Figure 8- Edges of animal barrow pits were also assessed for evidence of archaeological resources that may have been brought to the surface – none were found

5. CONCLUSIONS

Based on the result of literature review it is concluded that the region in and around Zeerust is known to contain archaeological and historic heritage resources. The physical survey of the proposed development area, for both Option 1 and Option 2, however did not yield any of the known archaeological and heritage resources. The study area is disturbed from previous quarrying activities associated with either the construction or rehabilitation of the nearby road. Based on this, it is concluded that the proposed development will not negatively impact on any archaeological or cultural heritage resources – none of these resources were found within the receiving environment.

6.RECOMMENDATIONS

Based on the above conclusions about both Option 1 and Option 2, the following recommendations are made:

- it is recommended that both SAHRA and the NW-PHRA grant the project a Positive Review Comment and allows the development to proceed.
- It is however, recommended that should any archaeological and/or heritage resource in form of Chance Finds (i.e. resources that are concealed in nature that were not identified by the current survey but which may be brought to earth surface through excavation activities associated with the proposed development) be identified during construction phase of the project, the ECO should report them to the nearest SAHRA office or museum or call an archaeologist and/or heritage specialist to investigate the finds and make necessary recommendations.

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