SPECIALIST REPORT

PHASE 1 ARCHAEOLOGICAL / HERITAGE IMPACT ASSESSMENT FOR PROPOSED DEBUSHING OF NATURAL AS WELL AS DISTUBED LAND FOR AGRICULTURAL USE: PORTION 2 OF THE FARM HERCULINA 155 JU, HECTORSPRUIT AREA MPUMALANGA PROVINCE

REPORT COMPILED FOR
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EXECUTIVE SUMMARY

A Phase 1 Heritage Impact Assessment (HIA) regarding archaeological and other cultural heritage resources was conducted on the footprint for the proposed alteration of natural as well as disturbed land for agricultural use: *portion* 2 of the farm HERCULINA 155JU, Hectorspruit.

The study area is situated on topographical maps 1:50 000, 2531BC, 2531BD, 2531DB, which is in the Mpumalanga Province. This area falls under the jurisdiction of the Ehlanzeni District Municipality, and Nkomazi Local Municipality.

The National Heritage Resources Act, no 25 (1999)(NHRA), protects all heritage resources, which are classified as national estate. The NHRA stipulates that any person who intends to undertake a development, is subjected to the provisions of the Act.

The applicant and owner, Mr. D.W. Moller, in co-operation with Rhengu Environmental Services, is requesting the alteration of natural as well as previously disturbed land for agricultural purposes (mango & sugar cane). An area of approximately 294ha is proposed to be developed of which 116 is natural bush. The remaining 178ha is previously disturbed agricultural lands which are currently covered with invasive vegetation (Sickle bush – *Dichrostachys cinerea*). The owner / applicant applied to extend the agricultural lands from the adjacent property to the east, which is used for commercial sugarcane farming (see Map. 4).

The proposed agricultural development is situated south of the N4 national road, approximately 21km east of Malelane and 6 km east of Hectorspruit. Swaziland is situated approximately 40 km to the south, and Komatipoort, 20km towards the east. The study area is currently a mix of natural land as well as historically disturbed agricultural fields. It consists of scattered trees and areas of dense scrub, and it is zoned as agricultural. The Crocodile River (and Kruger National Park) is situated 9km to the north. Small drainage lines are visible in this section and a landmark is Wilson's Kop, a prominent rocky outcrop in the south-western section. The intermittent "Stony" or "Ngwet Spruit" runs from west to east through the property. The area for the proposed development was mostly flat with a network of paths and roads for access. The natural vegetation was dense, but the disturbed sections were covered with impenetrable invasive species.

The survey concentrated on the natural bush sections but revealed no archaeological or historical features in the study area. A 1926 topographical map was studied and indicated one settlement on the property. However, this settlement falls outside the study area. Structures and features associated with recent farming practices are present on the property but are of no significance. No burial sites or archaeological features were observed in the study area, which was confirmed by the owner who knew the farm since his childhood days.

It is recommended that the owner be made aware that distinct archaeological material or human remains may only be revealed during the debushing / agricultural operation. It is recommended that earthmoving activities be monitored by a qualified archaeologist and that an assessment be done. Based on the survey and the findings in this report, Adansonia Heritage Consultants state that there are no compelling reasons which may prevent the proposed development to continue.

Disclaimer: Although all possible care is taken to identify all sites of cultural significance during

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specified project only:

1) The results of the project;

2) The technology described in any report;

3) Recommendations delivered to the Client.

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Christine Rowe

August 2015

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A. BACKGROUND INFORMATION TO THE PROJECT

Mr. D.W. Moller, the applicant of *portion 2 of the farm HERCULINA 155 JU*, in co-operation with Rhengu Environmental Services, is requesting the alteration of natural land as well as sections of previously disturbed land for agricultural purposes (mango & sugar cane). An area of approximately 294ha is proposed to be developed of which 116 is natural bush. The remaining 178ha are previously disturbed agricultural lands which is currently covered with invasive vegetation.

Adansonia Heritage Consultants were appointed by *RHENGU ENVIRONMENTAL SERVICES*, to conduct a Phase 1 heritage impact assessment (HIA) on archaeological and other heritage resources on the study area. A literature study, relevant to the study area as well as a foot survey was done, to determine that no archaeological or heritage resources will be impacted upon. (See Map. 3: Topographical Map: maps 1:50 000, 2531BC, 2531BD, 2531DA, 2531DB).

The aims of this report are to source all relevant information on archaeological and heritage resources in the study area, and to advise the client on sensitive heritage areas as well as where it is viable for the development to take place in terms of the specifications as set out in the National Heritage Resources Act no., 25 of 1999 (NHRA). Recommendations for maximum conservation measures for any heritage resources will also be made. The study area is indicated in Maps 2-5, and Appendix 1 & 2.

- This study forms part of an EIA, Consultant: RHENGU ENVIRONMENTAL SERVICES., P.O. Box 1046, Malelane, 1320, Cell: 0824147088 / Fax: 0866858003 / e-mail: rhengu@mweb.co.za
- Type of development: An area of approximately 294ha is proposed to be developed of which 116 is natural bush on portion 2 of the farm HERCULINA 155 JU, Hectorspruit, Mpumalanga Province. The remaining 178ha was previously disturbed agricultural lands which were cultivated during the 1980's with cotton, tobacco and tomatoes. The lands lay fallow for many years and are currently covered with invasive vegetation.
- The site is currently natural as well as disturbed land and zoned as agricultural no rezoning will take place.
- Location of Province, Magisterial district / Local Authority and Property (farms): The area falls
 within the Mpumalanga Province under the jurisdiction of the Ehlanzeni District
 Municipality and Nkomazi Local Municipality.
- Land owner: Mr. D. W. Moller.

Terms of reference: As specified by section 38 (3) of the NHRA, the following information is provided in this report.

- a) The identification and mapping of heritage resources where applicable;
- b) Assessment of the significance of the heritage resources;
- c) Alternatives given to affected heritage resources by the development;
- d) Plans for measures of mitigation.

Legal requirements:

The legal context of the report is grounded in the National Heritage Resources Act no. 25, 1999, as well as the National Environmental Management Act (1998) (NEMA):

- In terms of **Government Notice R546**, a basic Environmental Impact Assessment is required in terms of the following listed activities:
 - Activity 13: The clearance of an area of 300sqm or more of vegetation, where 75% or more of the vegetation cover constitutes indigenous vegetation;
 - Activity 14: The clearance of an area of 1ha or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.

Section 38 of the NHRA

This report constitutes a heritage impact assessment investigation linked to the environmental impact assessment required for the development. The proposed development is a listed activity in terms of Section 38 (1) of the NHRA. Section 38 (2) of the NHRA requires the submission of a HIA report for authorisation purposes to the responsible heritage resources agency, (SAHRA).

Heritage conservation and management in South Africa is governed by the NHRA and falls under the overall jurisdiction of the South African Heritage Resources Agency (SAHRA) and its provincial offices and counterparts.

Section 38 of the NHRA requires a Heritage Impact Assessment (HIA) to be conducted by an independent heritage management consultant, for the following development categories:

- Any development or other activity which will change the character of a site:
 - exceeding 5000m² in extent;
 - the rezoning of a site exceeding 10 000m² in extent;

In addition, the new EIA regulation promulgated in terms of NEMA, determines that any environmental report will include cultural (heritage) issues.

The end purpose of this report is to alert *RHENGU ENVIRONMENTAL SERVICES*, as well as the client Mr. D.W. Moller, and interested and affected parties about existing heritage resources that may be affected by the proposed development, and to recommend mitigation measures aimed at reducing the

risks of any adverse impacts on these heritage resources. Such measures could include the recording of any heritage buildings or structures older than 60 years prior to demolition, in terms of section 34 of the NHRA and also other sections of this act dealing with archaeological sites, buildings and graves. The NHRA section 2 (xvi) states that a "heritage resource" means any place or object of cultural significance, and in section 2 (vi) that "cultural significance" means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

Apart from a heritage report assisting a client to make informed development decisions, it also serves to provide the relevant heritage resources authority with the necessary data to perform their statutory duties under the NHRA. After evaluating the heritage scoping report, the heritage resources authority will decide on the status of the resource, whether the development may proceed as proposed or whether mitigation is acceptable, and whether the heritage resource require formal protection such as a Grade I, II or III, with relevant parties having to comply with all aspects pertaining to such a grading.

Section 35 of the NHRA

Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered. In the case of such chance finds, the heritage practitioner will assist in investigating the extent and significance of the finds and consult with an archaeologist about further action. This may entail removal of material after documenting the find or mapping of larger sections before destruction. No archaeological material was found during the survey which will be impacted upon by the proposed development.

Section 36 of the NHRA

Section 36 of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, alter, exhume or 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. It is possible that chance burials might be discovered during development of the road infrastructure or agricultural activities. No graves or burial sites were identified during the survey and will therefore not be impacted upon by the proposed development.

Section 34 of the NHRA

Section 34 of the NHRA stipulates that no person may alter, damage, destroy, relocate etc, any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority. This section does not apply since no structures older than 60 years were identified within the study area. An old settlement was observed on the 1926 topographical map, but falls outside the proposed development area.

Section 37 of the NHRA

This section deals with public monuments and memorials but does not apply in this report.

NEMA

The regulations in terms of Chapter 5 of the National Environmental Management Act, (107/1998), provides for an assessment of development impacts on the cultural (heritage) and social environment and for specialist studies in this regard.

B BACKGROUND TO ARCHAEOLOGY AND HISTORY OF THE STUDY AREA

· Literature review, museum databases & previous relevant impact assessments

The study area, *portion 2 of the farm Herculina 155 JU*, is located 6 km east of Hectorspruit and 21 km east of Malelane and approximately 20km west of Komatipoort. Swaziland is situated approximately 40 km to the south and the Kruger National Park (KNP), 9 km towards the north. An irrigation scheme was planned in 1957 for the farms south of the Crocodile River. Huge citrus farms were already established during that time and 32 000 citrus trees were planted on the Thankerton farm, near the study area. The irrigation scheme was delayed, and the farmers Danie and Dirk van Graan of Thankerton, started their own scheme, and built the 'Van Graan Dam' (see Map 3, topographical map), in the Crocodile River with a canal and three turbines on their farm. They subsequently erected a citrus pack house on the farm to serve the Hectorspruit area.¹ The Van Graans were also key role-players in establishing the sugar industry in the Low Veld.²

The area is rich in archaeological history and the first evidence of ancient mining occurred between 46000 and 28 500 years ago during the Middle Stone Age. Hematite or red ochre was mined at Dumaneni (near Malelane), and is regarded as one of the oldest mines in the world. Iron ore was also mined in the area and a furnace, as well as iron slag was documented.³

Bushman (or San) presence is evident in the area as research by rock art enthusiasts revealed 109 sites in the Kruger National Park,⁴ and over 100 rock art sites at Bongani Mountain Lodge and its immediate surrounds⁵ (west of Malelane), as well as many sites in the Nelspruit, Rocky's Drift and White River areas. Thirty one rock art sites were recorded on the Mpumalanga Drakensberg Escarpment. Rock art sites were also recorded in Swaziland.⁶ However, Smith and Zubieta claim that the area towards the

¹ Bornman, H., The Pioneers of the Lowveld, p. 69-70.

² Bornman, H., *The Pioneers of the Lowveld*, p. 73.

³ Bornman, H., *The Pioneers of the Lowveld*, p. 1.

⁴ English, M. Die Rotskuns van die Boesmans in die NKW, *in De Vos Pienaar, U., Neem uit die Verlede*, p. 18-24.

⁵ Hampson, et al., The rock art of Bongani Mountain Lodge, SA Archaeological Bullitin 57: p. 15.

⁶ Rowe, C. 2009. Heritage Management of Archaeological, Historical and Industrial resources on the Blyde River Canyon Nature Reserve, MA dissertation. Pretoria: UP.

east (Komatipoort) has no known rock art sites. The Bushman painters most probably obtained the ochre which was used as a pigment in the paintings, from the Dumaneni ochre mine.^{8 9}

History in the wider vicinity is closely connected to the study area and is briefly outlined below. The name Komati appears in historical records for the first time in 1589, in the form *Macomates*. It was recorded by a traveler on board the Portuguese ship *Sao Thome*, which sailed from Cochin, South India and ran aground on the shores of the *Land of the Makomati*, near *Lake Sibayi*, in what became known as KwaZulu Natal. The *Land of Makomati* comprised the entire hinterland as far north as the Limpopo River, as far south as St Lucia, and as far west as the Drakensberg escarpment. It was the trading zone of the Komati gold and ivory traders who had established themselves in Delagoa Bay (which was known up to the 17th century as *Makomati*), long before the arrival of the first Portuguese in 1498. The name of the Komati River came from *Makomati* who used it for trading purposes.¹⁰

In order to place the areas around Hectorspruit / Malelane in an archaeological context, primary and secondary sources were consulted. Ethnographical and linguistic studies by early researchers such as Ziervogel and Van Warmelo shed light on the cultural groups living in the area since ca 1600. Historic and academic sources by Küsel, Meyer, Voight, Bergh, De Jongh, Evers, Myburgh, Thackeray and Van der Ryst were consulted, as well as historic sources (Makhura and Webb).

Primary sources were consulted from the Pilgrim's Rest Museum Archives for a background on the prehistory and history of the study area. Several circular stone-walled complexes and terraces as well as graves have been recorded in the vicinity of Hazyview¹¹, Bushbuckridge, Graskop and Sabie, clay potsherds and upper as well as lower grinders, are scattered at most of the sites. Many of these occur in caves where small groups sheltered for protection against Swazi attacks (1900's). The 1984 topographical map did not show any historical features of interest. The 1926 topographical map of *Komatipoort* revealed one black settlement on the study area which was previously known as "Wilsons Kop." (Map 2). Other black settlements in the vicinity were recorded by names such as *Gomeni, Magungu, Losibam, John and Mahlilan*. They settled along the river and in the hills. The study area was mostly flat with one prominent rocky outcrop, named Wilson's Kop. The intermittent Ngwet Spruit (also called Stony Spruit) runs from west to east through the property. There are several drainage lines as well as dams on the farm. No structures or features of significance were indentified on the study area.

⁷ Masson, J. 2008. Views from a Swaziland Cave. The Digging Stick, Vol. 25 no 1: 1-3.

⁸ Bornman, H. The Pioneers of the Lowveld, p. 1.

⁹ Masson, J. 2008. Views from a Swaziland Cave. *The Digging Stick*, Vol. 25 no 1: 1-3.

¹⁰Bornman, H., *The Pioneers of the Lowveld*, p. 9.

¹¹PRMA: Information file 9/2.

¹²D. Ziervogel, *The Eastern Sotho, A Tribal, Historical and Linguistic Survey,* p. 3.

¹³Map: 1926 Topographical Map: Komati Poort no. 22.

The author was also involved in desktop studies and surveys in the area, such as:

- Study for the Proposed Eskom Powerlines, Hazyview Dwarsloop (2008);
- Inspection of Umbhaba Stone-walled settlement, Hazyview, (2001);
- a Phase 1 Archaeological and Heritage Impact Assessment for 132Kv Powerlines from Kiepersol substation (Hazyview), to the Nwarele substation Dwarsloop (2002);
- a Phase 1 Archaeological and Heritage Impact Assessment for a proposed traffic training academy, Calcutta, Mkhuhlu, Bushbuckridge (2013);
- Phase 1 Archaeological and Heritage Impact Assessment for the proposed Nkambeni cemetery in Numbi, Hazyview (2013);
- Phase 1 Archaeological and Heritage Impact Assessment for a Development on the farm Agricultural Holding no 56 JU, White River (2013) was done in the wider area;
- Phase 1 Archaeological and Heritage Impact Assessment for proposed agricultural development on the farm SIERAAD, Komatipoort area, (2013) revealed one possible Late Stone Age borer which was identified in a soil sample, one meter below the surface;
- Phase 1 Archaeological and Heritage Impact Assessment for proposed debushing of natural land for agricultural use: portion 2 of the farm THANKERTON 175JU, Hectorspruit area, (2014) revealed a few Late Stone Age flakes and clay potsherds & upper grinders which were all out of context and of no significance.

No significant archaeological material was identified during the surveys above.

The SAHRA database for archaeological and historical impact assessments was consulted and revealed other recent Archaeological Impact assessment reports in the area of Komatipoort:

- J. Van Schalkwyk: Proposed new Lebombo Port of Entry and upgrade of Komatipoort railway station between Mpumalanga (SA) and Mozambique (2008) – Some historic building were identified but no archaeological remains;
- A. Van Vollenhoven: Report on a cultural Heritage Impact Assessment for the proposed
 Kangwane Antracite Mine, Komatipoort (2012) An archaeological site with Middle and Late
 Stone Age tools were identified as well as some Iron Age artifacts and decorated pottery.
 Mitigation measures were recommended by exclusion from the development or a Phase 2 study;
- JP Celliers: Report on Phase 1 Archaeological Impact assessment on erven at Komatipoort 182 JU Extension 4, Komatipoort (2012) – Revealed two pieces of undecorated sherds of pottery which was of low significance. It was recommended that any earthmoving activities be monitored by a qualified archaeologist.
- A. Van Vollenhoven: Archaeological Impact Assessment for Border site at Komatipoort (2012) –
 Revealed historic remains linked to the Steinaeker's Horse regiment during the South African War.

Some archaeological material was identified towards the Komatipoort area, and mitigation measures were recommended.

Very little contemporary research has been done on prehistoric African settlements in the study area. Later Stone Age sites in the Kruger National Park date to the last 2500 years and are associated with pottery and microlith stone tools. The only professionally excavated Early Iron Age site near the area, besides those in the Kruger National Park, is the Plaston site near White River, dating ca 900 AD. No other archaeological excavations have been conducted to date within the study area, which have been confirmed by academic institutions and specialists in the field. A stone walled settlement with terracing was recorded by C. van Wyk (Rowe) close to Hazyview, as well as several which were documented in the southern parts of the Kruger National Park. The southern Kruger Park and Nelspruit areas have an abundance of San rock art sites, as mentioned above, but none were identified in the direct vicinity of the study area.

Several early ethnographical and linguistic studies by early researchers such as D. Ziervogel and N.J. Van Warmelo, revealed that the study area was mainly inhabited by the Tsonga (Nhlanganu and Tšhangana), as well as Swazi from before the 18th century.²¹ ²² (See Map 1: 1935: Map of Van Warmelo). When concentrating on ethnographical history, it is important to include a slightly wider geographical area in order for it to make sense. Van Warmelo based his 1935 survey of *Bantu Tribes of South Africa* on the amount of taxpayers in an area. The survey does not include the extended households of each taxpayer, so it was impossible to actually indicate how many people were living in one area.²³

The whole district is divided in two, with the Drakensberg Escarpment in the west, and the Low Veld (in which the study area is situated) towards the east. Today, we found that the boundaries of groups are intersected and overlapping.²⁴ Languages such as Zulu, Xhosa, Swazi, Nhlanganu, Nkuna, sePedi, hiPau and seRôka, are commonly spoken throughout this area.²⁵

¹⁴ J.S. Bergh (red)., *Geskiedenis Atlas van Suid Afrika: Die vier Noordelike Provinsies*, p. 95.

¹⁵M.M. Van der Ryst., Die Ystertydperk, *in J.S. Bergh (red.), Geskiedenis Atlas van Suid Afrika: Die vier Noordelike Provinsies.* p. 97.

¹⁶Personal information: Dr. J. Pistorius, Pretoria, 2008-04-17.

¹⁷Personal information: Dr. MS. Schoeman, University of Pretoria, 2008-03-27.

¹⁸C. Van Wyk, *Inspection of Umbhaba Stone-walled settlement, Hazyview*, pp. 1-2.

¹⁹Eloff J.F., Verslag oor Argeologiese Navorsing in die Krugerwildtuin, June / July, 1982.

²⁰Hampson, J., et al., The rock art of Bongani Mountain Lodge and its environs, *South African Archaeological Bulletin* 57: pp. 17-28.

²¹N.J. Van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa. pp. 90-92 & 111.

²²H. S. Webb, The Native Inhabitants of the Southern Lowveld, *in Lowveld Regional Development Association, The South-Eastern Transvaal Lowveld.* p.16.

²³N.J. van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa, p.9.

²⁴ N.J. van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa, p. 51.

²⁵M. De Jongh (ed)., Swatini, p. 21.

During the middle of the 18th century some Sotho and Swazi groups combined under a fighting chief Simkulu. The tribe so formed became known as the BakaNgomane. The principal settlement of Simkulu was in the vicinity of the confluence of the Crocodile and Komati Rivers. It is believed that the BakaNgomane chiefs were buried there.²⁶

The Swazi under Mswati II (1845), raided prosperous tribal lands to the north of Swaziland. Mswati II regiments such as the *Nyatsi* and the *Malelane* brought terror to African homes as far afield as Mozambique.²⁷ During their northern expansion they forced the local inhabitants out of Swaziland, or absorbed them.²⁸ There is evidence of resistance, but the Eastern Sotho groups who lived in the northern parts of Swaziland, moved mainly northwards.²⁹ This appears to have taken place towards the end of the 18th century,³⁰ when these groups fled from Swaziland to areas such as Nelspruit, Bushbuckridge, Klaserie, Blyde River and Komatipoort.³¹

Mswati II built a line of military outposts from west to east of the upper Komati River and the Mlambongwane (Kaap River). At each outpost he stationed regiments to watch and stop the BaPedi returning to their old haunts.³²

Shaka in the course of his military actions, came into conflict with Zwide Mkhatshwa (1819). Nonwithstanding Zwide's numerical superiority, Shaka defeated him. The remnants of Zwide's tribe fled into the Eastern Transvaal where they settled. They ultimately found a new kingdom in Gaza land, that extended from just north of the current Maputo, up the east coast as far as the Zambezi river.³³

Soshangane was a very powerful chief of the Gaza people, even though he was under the rule of Zwide. Soshangane decided to leave and was given full passage through Swaziland. He passed on his way through the Komati gorge, today known as Komatipoort, taking with him a great booty of cattle and women. Meanwhile more Shangane arrived and by 1896 some 2000 refugees settled between Bushbuckridge and Acornhoek where they are still living today. With the establishment of the Sabie Game Reserve (later known as the Kruger National Park), the BakaNgomane, their Shangaan protégés and Swazis who lived within its borders, were evicted in 1902, and went westward into Klaserie and Bushbuckridge areas, or south of the Crocodile River and established themselves in the Tenbosch and Coal Mine (Strijdom Block) areas (close to the current study area), west and south of Komatipoort. The

³¹*Ibid.*, p. 16.

²⁶ Bornman H., *The Pioneers of the Lowveld* pp. 10-11.

²⁷ Bornman H., *The Pioneers of the Lowveld* p 11.

²⁸A.C. Myburgh, *The Tribes of Barberton District*, p. 10.

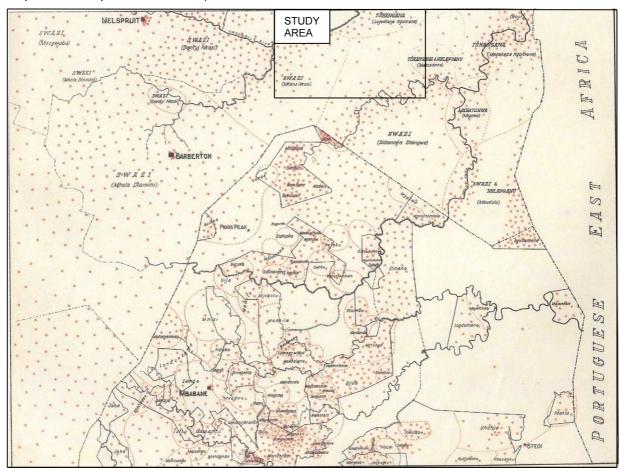
²⁹N.J. Van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa. p. 111.

³⁰H. S. Webb, The Native Inhabitants of the Southern Lowveld, in Lowveld Regional Development Association, The South-Eastern Transvaal Lowveld. p. 14

³² Bornman H., *The Pioneers of the Lowveld* p. 12.

³³ Bornman, H., *The Pioneers of the Lowveld*, p.17.

Swazi of Khandzalive moved to Mjejane or Emjejane, the current name for Hectorspruit.³⁴ (See also: Map 1: 1935 Map of Van Warmelo).



MAP 1: Van Warmelo: 1935: The study area is indicated.

Tsonga groups: The Nhlanganu and Tšhangana

The Nhlanganu and Tšhangana (also generally known as the Shangaan-Tsonga)³⁵ form part of the larger Tsonga group of which the original group occupied the whole of Mozambique (Portuguese East Africa), and it has been recorded that by 1554, they were already living around the Delagoa Bay area (Maputo).³⁶ They fled from the onslaughts of the Zulu (Nguni) nation from the Natal area, and great numbers of emigrants sought safety in the "Transvaal" as recently as the 19th century, especially in the greater Pilgrim's Rest district (including the study area that we are concerned with). The Tsonga also moved west from Mozambique into the "Transvaal". They never formed large powerful tribes but were mostly always subdivided into loosely-knit units, and absorbed under the protection of whichever chief would

³⁴ Bornman, H., *The Pioneers of the Lowveld*, p.19.

³⁵M. De Jongh (ed)., Swatini, p. 24.

³⁶N.J. Van Warmelo, Grouping and Ethnic History, *in Schapera I., The Bantu-Speaking Tribes of South Africa. An Ethnographical survey*, p. 55.

give them land.³⁷ They were originally of Nguni origin.³⁸ The term "Shangaan" is commonly employed to refer to all members of the Tsonga division.³⁹

The **Nhlanganu** occupied the Low Veld area in their efforts to escape the Zulu raids during 1835-1840. They lived side by side with the Tšhangana, and the differences between the two are inconsiderable. They have mixed extensively with other tribes.⁴⁰

The **Tšhangana** are also of Nguni origin who fled in the same way as the Nhlanganu, and settled in the "Transvaal" a little later than the former. Most of the Tsonga were subjects to *Soshangane*, who came from Zululand.⁴¹ The downfall of *Ngungunyana* (son of *Soshangane*) saw his son seeking sanctuary in the "Transvaal", and the latter became known as *Thulamahashi*,⁴² the name that is still used for the area east of Busbuckridge.

The historical background of the study area confirmed that it was occupied since the 17th century by the Tsonga groups (Nhlanganu and Tšhangana). These groups have intermarried extensively or were absorbed by other groups in time.⁴³

Swazi

The Swazi people descend from the southern Bantu (Nguni) who migrated from central Africa in the 15th and 16th centuries.⁴⁴ The differences between the Swazi and the Natal Nguni were probably never great, their culture as far as is known from the comparatively little research being carried out, does not show striking differences. Their language is a 'Tekeza' variation of Zulu, but through having escaped being drawn into the mainstream of the Zulus of the *Shaka* period, they became independent and their claim to be grouped apart as a culture is now well founded.⁴⁵

• History of Hectorspruit

The NZASM railway line between Delagoa Bay and the Transvaal was opened in 1895, and brought more white settlers to the area. The towns Komatipoort, Hectorspruit, Malelane and Kaapmuiden, were

³⁷N.J. Van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa, pp. 90-91.

³⁸N.J. Van Warmelo, Grouping and Ethnic History, *in Schapera I., The Bantu-Speaking Tribes of South Africa. An Ethnographical survey*, p. 55.

³⁹N.J. Van Warmelo, *A Preliminary Survey of the Bantu Tribes of South Africa*, p. 92

⁴⁰*Ibid.*,.pp. 91-92.

⁴¹N.J. Van Warmelo, Grouping and Ethnic History, *in Schapera I., The Bantu-Speaking Tribes of South Africa. An Ethnographical survey*, p. 57.

⁴²N.J. Van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa, p. 92.

⁴³M. De Jongh (ed)., Swatini, p. 40.

⁴⁴ http://en.wikipedia.org/wiki/Swaziland p.1.

⁴⁵ N.J. Van Warmelo, A Preliminary Survey of the Bantu Tribes of South Africa, p. 83.

established as a result of the railway line and this line reached Hectorspruit on 1 October 1891.⁴⁶ The surveying of the railway line was done by Steinmetz and Bouton, who also gave names to the towns. Hectorspruit was named after one of their dogs, Hector which was buried next to this spruit.⁴⁷ Hectorspruit (or Emjejane) is still a small farming town between Kaapmuiden and Komatipoort and produced sugarcane, subtropical fruits and vegetables, for which this area is known.⁴⁸

Wilsons Kop is an outcrop in the flat savanna veld.⁴⁹ The 1926 topographical map (see map 2), indicates that the farm "Herculina" was previously called *Wilson's Kop 303*. The rocky outcrop on the farm, named Wilsons Kop derived its name from a former Land Surveyor, Mr. Wilson according to the current owner.⁵⁰ The Department of Agriculture encouraged cotton growing in the *Union* and trial planting at a Government Experimental Farm was done in the area of Barberton around 1901. Mr. W.B. Wilson was placed in charge of the Experiment Station at Barberton in 1913, but is seems as if more attention was paid to tobacco.⁵¹ It is possible that Mr. W.B. Wilson could be linked to the name of *Wilsons Kop*, as both cotton and tobacco was cultivated on the farm Herculina.⁵²

C. DESCRIPTION OF THE AREA TO BE AFFECTED BY THE PROPOSED DEVELOPMENT

The proposed project will involve the following:

An area of approximately 294ha is proposed to be developed of which 116 is natural bush. The remaining 178ha is previously disturbed agricultural lands which are currently covered with invasive vegetation (Sickle bush – *Dichrostachys cinerea*). These sections are indicated in Map 4. The previous cultivated sections (orange sections on the map), were last planted during the 1980's with cotton, tobacco and tomatoes.⁵³ It was lying fallow for many years, ⁵⁴ hence the invasion of Sickle bush.

There are several drainage lines on the farm, which enter several dams (Map 4). The adjacent farm to the east is used for commercial sugar cane (see Map. 4). The area is zoned as agriculture and no rezoning will take place. There is a vast variation of vegetation and trees. Technically the ecozone representing this area is referred to as *Mixed bushwillow woodland* on granite and *Sabie Crocodile thorn thickets* on granite.⁵⁵ The vegetation is characterized by *mixed Lowveld Bushveld* with tall woodlands made up of knob-thorn and other acacia species mixed in with trees such as marulas, bushwillow, apple-

⁴⁶ Bornman, H., *The Pioneers of the Lowveld*, p. 23.

⁴⁷ Bornman, H., *The Pioneers of the Lowveld*, p. 23.

^{48 &}lt;a href="http://www.org./wiki/hectorspruit">http://www.org./wiki/hectorspruit Access: 15-12-13.

⁴⁹ Bornman, H., *Baanbrekers van die Laeveld*, p. 91.

⁵⁰ Personal Communication: Mr. Wilson, 2015-07-06.

⁵¹ H. S. Webb, The Native Inhabitants of the Southern Lowveld, *in Lowveld Regional Development Association, The South-Eastern Transvaal Lowveld.* p. 117.

⁵² Personal Communication: Mr. Wilson, 2015-07-06.

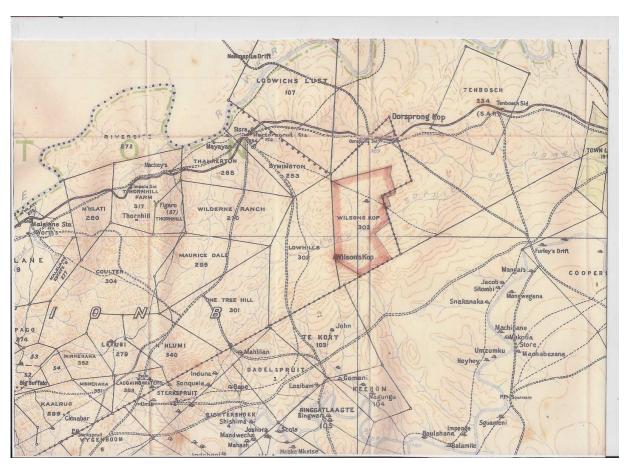
⁵³ Personal Communication: Mr. Wilson, 2015-07-06.

⁵⁴ Rhengu Environmental Services, BID document, Dec 2013.

⁵⁵ Deacon, A., e-mail access 26-01-14, after (Mucina & Rutherford 2007 & Alcocks 1953).

leafs, silver cluster-leafs, and jackalberry and fever trees along the drainage lines. The typical granite and dolerite plains have sandy soils and clayey soils in the lower areas. 56 57 58 (Fig. 1, 2, 3, 4, 5 & 6).

The 1926 topographical map (Map 2), indicates only one black settlement in the northern section of the property, outside of the study area. Several black settlements are indicated towards the south of the farm along the Lomati River.



MAP 2: 1926 Topographical map: The study area is indicated in red.

D. LOCALITY

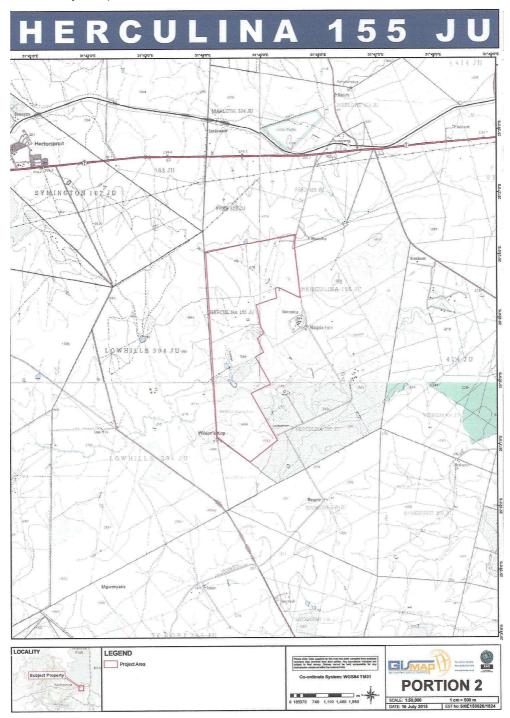
The proposed project site is located on *portion 2 of the farm HERCULINA 155 JU*, situated south of the N4 national road, approximately 21km east of Malelane and 6 km east of Hectorspruit. Swaziland is situated approximately 40 km to the south, and Komatipoort, 20km towards the east. The Kruger National Park is 9km to the north.

⁵⁶ SANPARKS, Visitors Guide to the Kruger National Park, p. 2.

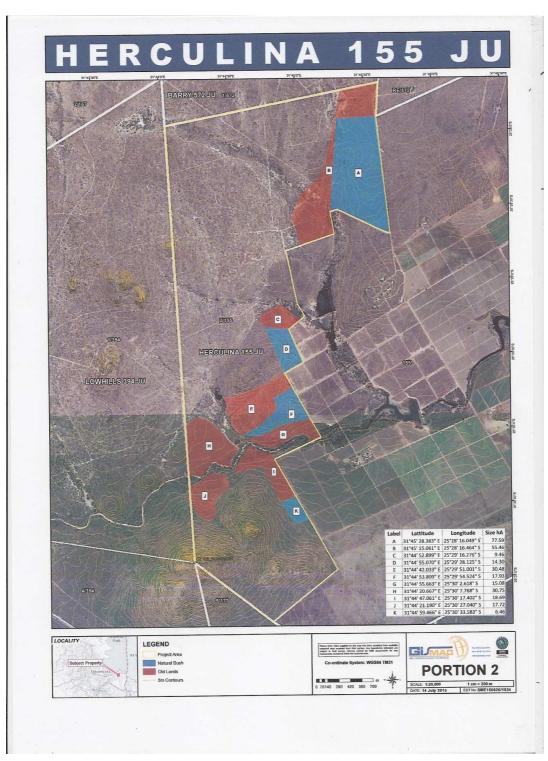
⁵⁷ Van Wyk, B., & Van Wyk P., Field Guide to Trees of Southern Africa, 1997, p. 500.

⁵⁸ Deacon, A., e-mail access 26-01-14, after (Mucina & Rutherford 2007 & Alcocks 1953).

The site falls under the Nkomazi Local Municipal jurisdiction, which in turn falls within Ehlanzeni District Municipality, in the Mpumalanga Province (see Maps 2 - 5: Topographical Map & Google images of sites; Fig. 1 - 6 for the study area).



MAP 3: Topographical Map indicates the study area. (Map provided by Rhengu Environmental Services)



MAP 4: The study area: *portion 2 of the farm Herculina 155JU*. The proposed areas to be developed, are indicated in blue (natural land) and brown (previously disturbed agricultural lands). (Map provided by Rhengu Environmental Services)

• Description of methodology:

The 1984 topographical map, (Map 3), as well as a 1926 topographical map (Map 2), and historical and recent Google images of the site (Maps 4 & 5), indicate the study area of the proposed development. These were intensively studied to assess the current and historically disturbed areas and infrastructure. In order to reach a comprehensive conclusion regarding the cultural heritage resources in the study area, the following methods were used:

- The desktop study consists mainly of archival sources studied on distribution patterns of early African groups who settled in the area since the 17th century, and which have been observed in past and present ethnographical research and studies.
- Literary sources, books and government publications, which were available on the subject, have been consulted, in order to establish relevant information.
- Several specialists currently working in the field of anthropology and archaeology have also been consulted on the subject.
- -Literary sources: A list of books and government publications about prehistory and history of the area were cited, and revealed some information;
- -The archaeological databases of SAHRA as well as the National Cultural History Museum were consulted. Heritage Impact Assessment reports of specialists who worked in the area were studied and are quoted in section B.
- The study area is natural bush as well as previously disturbed agricultural land, which belongs to Mr. D.W. Moller. It is currently game fenced.
- A site visit with the Environmental Consultant Mr. R. Kalwa was held. Features of interest were pointed out during the visit.
- The field survey was done with 2 people over one day and concentrated on the natural bush sections indicated in blue (see Map 4).
- The fieldwork and survey was conducted extensively on foot and with a vehicle. Tracks and paths criss-cross the farm and were mainly used to access areas (See Appendix 2).
- The terrain was mostly flat, even and accessible with small rocky ridges in sections D & F. There
 was a variation of medium sized bushes and trees and the vegetation was dense. Visibility in
 some sections (such as thorn thickets), was restricted.
- Historic Google imagery clearly shows the disturbed sections. The 2011 image was used in this
 report.
- Open sections were scrutinized for any archaeological material.
- The relevant data was located with a GPS instrument (Garmin Etrex) datum WGS 84, and plotted. Co-ordinates were within 4-6 meters of identified sites.
- Evaluation of the resources which might be impacted upon by the footprint, was done within the framework provided by the National Heritage Resources Act, no. 25 (1999);
- Personal communication with relevant stakeholders on the specific study area, were held, such

as the applicant (owner) Mr. Moller. He knew the farm since his childhood days but purchased the farm only recently. He has investigated the farm together with the farm manager extensively on foot, looking for snares.⁵⁹

- Personal communication was also held with the environmental practitioner Mr. R. Kalwa.⁶⁰
- GPS co-ordinates were used to locate the perimeters and any heritage features within the study area (Co-ordinates provided by RHENGU Environmental Services): (See Map 5).

	GPS CO-ORDINATES							
Location	South	East	Size Ha					
Α	S 25° 28' 16.049"	E 31° 45' 28.383"	77.59					
В	S 25° 28' 16.464"	E 31° 45' 15.061"	55.46					
С	S 25° 29' 16.276"	E 31° 44' 52.899"	9.46					
D	S 25° 29' 28.125"	E 31° 44' 55.070"	14.30					
E	S 25° 29' 51.001"	E 31° 44' 42.033"	30.48					
F	S 25° 29' 54.524"	E 31° 44' 53.809"	17.93					
G	S 25° 30' 2.618"	E 31° 44' 55.663"	15.08					
Н	S 25° 30' 7.768"	E 31° 44' 20.667"	30.75					
I	S 25° 30' 17.402"	E 31° 44' 47.061"	18.69					
J	S 25° 30' 27.040"	E 31° 44' 21.190"	17.72					
K	S 25° 30' 33.583"	E 31° 44' 59.466"	6.46					

E. DESCRIPTION OF IDENTIFIED SITES

The alteration of natural bush as well as previously disturbed land for agricultural purposes (mango & sugar cane), is requested by the applicant, Mr. Moller. An area of approximately 294ha is proposed to be developed of which 116 is natural bush. The remaining 178ha is previously disturbed agricultural lands which are currently covered with invasive vegetation (See map 4). As mentioned previously, the disturbed sections were lying fallow for many years, and were planted with cotton, tobacco and tomatoes in the 1980's.

The study area falls within the Malelane and the Komatipoort area which has historically been known for agricultural farming. Large sections on the adjacent properties are already cultivated with citrus, mangoes or sugarcane (see Map. 4 & Fig. 6). Modern topographical maps also clearly show extensive farming activities in the surrounding area (Map 3). The owner is farming sugarcane on the property toward the east and wishes to extend this commercial venture on Herculina. The study area is mostly flat savanna veld, with the prominent Wilson's Kop towards the south west. The 1926 topographical map

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⁵⁹ Personal Communication: Mr. Wilson, 2015-07-06.

⁶⁰ Personal information: Mr. R. Kalwa, 2014-01-20.

(Map 2) indicates one historic settlement in the northern section of the farm but outside of the study area. There are several of these settlements indicated in the hills towards the current Swaziland and along the Lomati and Komati rivers (to the south and east). The 1935 map by Van Warmelo indicated the groups living in the area as mainly Shangaan and Swazi (Map 1).

The study area is indicated in maps 3-5. The terrain was mostly even with small rocky ridges in sections D & F. Vegetation was dense and visibility was restricted (see fig. 1 - 30). The sections were however not very big and was accessible by existing paths and roads, and was surveyed on foot and per vehicle. The study concentrated only on the natural bush sections, namely A, D, F and K, as sections B, C, E, G, H, I, & J were previously disturbed agricultural lands and covered with invasive Sickle bush – *Dichrostachys cinerea*. Sickle bush is often invasive and thicket forming in overgrazed or disturbed areas. ⁶¹ These previously disturbed areas were dense and impenetrable.

The natural bush sections were investigated but no graves, archaeological material or Late Iron Age settlements were observed during the survey (see Appendix 2). Several recent concrete foundations associated with farming activities were observed, but are of no significance. An old homestead is located outside of the study area. The owner Mr. Moller knows the farm very well and indicated that he and the farm manager have not came across any graves or settlements apart from old homesteads associated with white farming communities. None of the workers on the farm know of any graves on the farm.

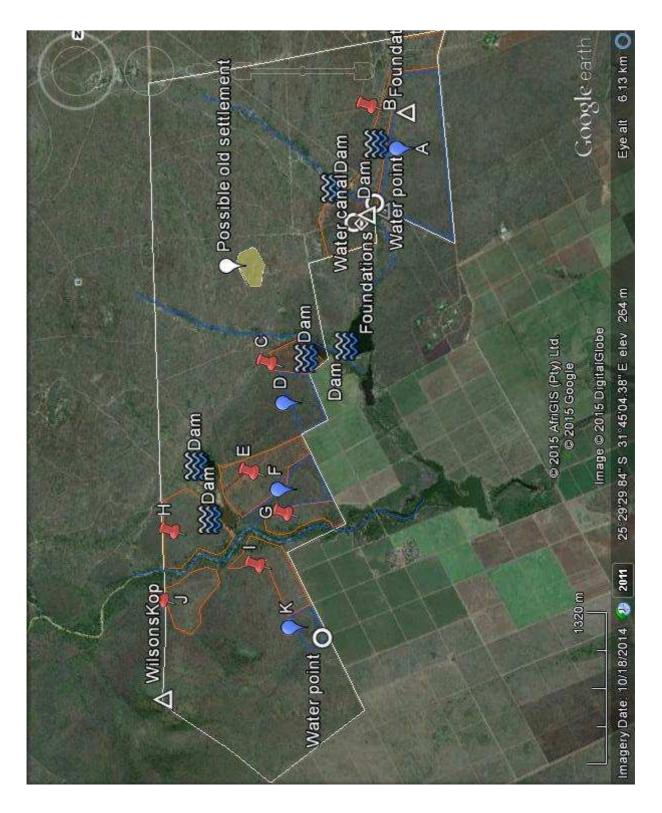
All open sections were intensely investigated during the survey but revealed no archaeological artifacts or deposits.

All comments should be studied in conjunction with the maps, figures and appendices, which indicate the study area, and which corresponds with the summary below. Photographs in Appendix 1 show the general views of the study area.

No graves, archaeological sites of significance, stone walls or historic structures within the study area were identified, and this was confirmed by the applicant (owner).

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⁶¹ VAN WYK, B., & VAN WYK P., Field Guide to Trees of southern Africa, p. 500.



MAP 5: Heritage and other recent features on the study area.

Recent features (See Map 5):

Block	Feature	Description / Comments	Site Location
Natural sections:			
A	Foundations and thatched areas associated with recent farm activities	Recent infrastructure in Block A are of no significance	Foundations S25° 28' 04.85" E31° 54' 25.23" Elev. 283m Fig. 8.
К	Round concrete dam	This dam is associated with the farm infrastructure and is of no significance	Concrete dam S25° 30' 36.5" E31° 45' 05.4" Elev. 207m Fig. 14.
Previousl	y disturbed sections:		
В	Pump House, canal, concrete water dam and foundations	Recent farm infrastructure in Block B is of no significance	Pump house, canal concrete water dam S25° 28' 35.9" E31° 45' 12.4" Fig. 18, 19, 20.
Outside study area	Old homestead	Outside the study area	S25° 28' 04.85" E31° 54' 25.23" 283m Fig. 21, 22.

The study area was surveyed on foot and per vehicle for any remains of archaeological or historical nature. The terrain was mostly even but the vegetation cover was dense. Paths and roads made the natural sections accessible for the survey but the disturbed sections were impenetrable. Two small rocky ridges were observed in Blocks D & F (Fig. 10 & 12), but revealed no archaeological remains. Wilsons Kop falls outside of the study area.

The area is game fenced and the owner Mr. Moller knew the property since his childhood days. He or the farm manager or workers has never encountered any graves or stone settlements on the farm. The old homestead which may be older than 60 years falls outside of the study area.⁶²

No burial sites or archaeological features were identified in the study area.

⁶² Personal Communication: Mr. Wilson, 2015-07-06.

F. DISCUSSION ON THE FOOTPRINT OF THE PROPOSED DEVELOPMENT

ACT	COMPO- NENT	IMPLICATION	RELEVANCE	COMPLIANCE
NHRA	S 34	Impact on buildings and structures older than 60 years	None present	None
NHRA	S35	Impacts on archaeological and palaeontological heritage resources	None were observed	None
NHRA	S36	Impact on graves	None present	None
NHRA	S37	Impact on public monuments	None present	None
NHRA	S38	Developments requiring an HIA	Development is a listed activity	HIA done
NEMA	EIA regulations	Activities requiring an EIA	Development is subject to an EIA	HIA is part of EIA

• Summarised identification and cultural significance assessment of affected heritage resources: General issues of site and context:

Context							
Urban environmental context	No	NA					
Rural environmental context	No	Vacant land					
Natural environmental context	No	Four sections of virgin land					
Formal protection (NHRA)							
(S. 28) Is the property part of a protected area?	No	NA					
(S. 31) Is the property part of a heritage area?	No	NA					
Other							
Is the property near to or visible from any protected heritage sites	No	NA					

Context							
Is the property part of a conservation area of special area in terms of the Zoning scheme?	No	NA					
Does the site form part of a historical settlement or townscape?	No	NA					
Does the site form part of a rural cultural landscape?	No	NA					
Does the site form part of a natural landscape of cultural significance?	No	NA					
Is the site adjacent to a scenic route?	No	NA					
Is the property within or adjacent to any other area which has special environmental or heritage protection?	Yes	Close to the Kruger National Park – approximately 9km					
Does the general context or any adjoining properties have cultural significance?	No	NA					

Property features and characteristics						
Have there been any previous development impacts on the property?	No	The land is vacant				
Are there any significant landscape features on the property?	Yes	Wilsons Kop				
Are there any sites or features of geological significance on the property?	No	NA				
Does the property have any rocky outcrops on it?	Yes	Prominent outcrop called Wilson's Kop and insignificant rocky ridges				
Does the property have any fresh water sources (springs, streams, rivers) on or alongside it?	Yes	It has drainage lines, dams and an intermittent stream: Ngwet Spruit.				

Heritage resources on the property								
Formal protection (NHRA)								
National heritage sites (S. 27)	No	NA						
Provincial heritage sites (S. 27)	No	NA						
Provincial protection (S. 29)	No	NA						
Place listed in heritage register (S. 30)	No	NA						
General pro	tectio	n (NHRA)						
Structures older than 60 years (S. 34)	No	NA						
Archaeological site or material (S. 35)	No	NA						
Palaeontological site or material (S. 35)	No	NA						
Graves or burial grounds (S. 36)	No	NA						
Public monuments or memorials (S. 37)	No	NA						
C	Other							
Any heritage resource identified in a heritage survey (author / date / grading)	No	NA						
Any other heritage resources (describe)	No	NA						

NHRA	ELE-		INDICATORS OF HERITAGE SIGNIFICANCE						RISK			
S (3)2 Heritage resourcec ategory	MENT S	Histo rical	Rare	Sci enti fic	Typi cal	Tech- nolog ical	Aes thetic	Pers on / com munit y	Land mark	Mate rial con dition	Sust aina bility	
Buildings / structures of cultural significance	No	No	No	No	No	No	No	No	No	No	No	None
Areas attached to oral traditions / intangible heritage	No	No	No	No	No	No	No	No	No	No	No	None
Historical settlement/ townscapes	No	-	-	-	-	-	-	-	-	-	-	None
Landscape of cultural significance	No	-	-	-	-	-	-	-	-	-	-	None
Geological site of scientific/ cultural importance	No	-	-	-	-	-	-	-	-	-	-	None
Archaeologi cal / palaeontolo gical sites	No	-	-	-	-	-	-	-	-	-	-	None
Grave / burial grounds	No	-	-	-	-	-	-	-	-	-	-	None
Areas of significance related to labour history	No	-	-	-	-	-	-	-	-	-	-	None
Movable objects	No	-	-	-	-	-	-	-	-	-	-	None

• Summarised recommended impact management interventions

NHRA			Impact	Motivation	
S (3)2			_	management	
resource category		Cultural significanc	Impact significanc		
Buildings / structures of cultural significance	No	No	None	-	-
Areas attached to oral traditions / intangible heritage	Yes	None	None	Wilsons Kop will not be impacted upon by the proposed development	NA
Historical settlement/ townscape	No	None	None	-	-
Landscape of cultural significance	No	None	None	-	-
Geological site of scientific/ cultural importance	No	None	None	-	-
Archaeologica I / palaeontologic al sites	No	None	None	-	-
Grave / burial grounds	No	No	None	-	-
Areas of significance related to labour history	No	None	None	-	-
Movable objects	No	None	None	-	-

ACT	COMPO- NENT	IMPLICATION	RELEVANCE	COMPLIANCE	
NHRA	S 34	Impact on buildings and structures older than 60 years	None present	None	
NHRA	S35	Impacts on archaeological and palaeontological heritage resources	None observed	None	
NHRA	S36	Impact on graves	None observed	None	
NHRA	S37	Impact on public monuments	None present	None	
NHRA	S38	Developments requiring an HIA	Development is a listed activity	Full HIA	
NEMA	EIA regulations	Activities requiring an EIA	Development is subject to an EIA	HIA is part of EIA	

G. STATEMENT OF SIGNIFICANCE & EVALUATION OF HERITAGE RESOURCES

Section 38 of the NHRA, rates all heritage resources into National, Provincial or Local significance, and proposals in terms of the above is made for all identified heritage features.

· Evaluation methods

Site significance is important to establish the measure of mitigation and / or management of the resources. Sites are evaluated as *HIGH* (*National importance*), *MEDIUM* (*Provincial importance*) or *LOW*, (*local importance*), as specified in the NHRA. It is explained as follows:

• National Heritage Resources Act

The National Heritage Resources Act no. 25, 1999 (NHRA) aims to promote good management of the national estate, and to enable and encourage communities to conserve their legacy so that it may be bequeathed to future generations. Heritage is unique and it cannot be renewed, and contributes to redressing past inequities.⁶³ It promotes previously neglected research areas.

All archaeological and other cultural heritage resources are evaluated according to the NHRA, section 3(3). A place or object is considered to be part of the national estate if it has cultural significance or other special value in terms of:

- (a) its importance in the community, or pattern of South Africa's history;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;

⁶³National Heritage Resources Act, no. 25 of 1999. p. 2.

- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons:
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.⁶⁴

The significance and evaluation of the archaeological and cultural heritage features in the study area, can be summarised as follows:

Site no	Cultural / Heritage features	Significance	Measures of mitigation
Block A	Recent foundations and thatched	No significance	The foundations are not older than
(Natural	areas associated with recent farm		60 years and will not be impacted
section)	activities		upon by the proposed development.
Block K	Round concrete dam associated	No significance	Infrastructure associated with recent
	with the farm infrastructure		farm activities are of no significance
			and will not be impacted upon by the
			proposed development.
Block B	Pump House, canal, concrete	No significance	Infrastructure associated with recent
	water dam and foundations are		farm activities are of no significance
	associated with the farm		and will not be impacted upon by the
	infrastructure		proposed development.
Outside	Old homestead	Outside the	Fall outside the area of development
study area		study area	and will not be impacted upon by the
			proposed development

• Field rating:

The field rating is viewed in terms of the NHRA (25, 1999) sections 3 (3) a, c & g.

No features of significance were identified during the survey. This was confirmed by the owner Mr. Moller who confirmed that he has never came across any graves or LIA settlements on the farm. The infrastructure on the property is mostly associated with recent white farming activities and is of no significance. The old homestead may be older than 60 years but falls outside of the study area. The prominent outcrop Wilson's Kop has historical significance but will not be impacted upon by the proposed development. It is not believed that the features which were identified during the survey have any significance in terms of historic or cultural value which might prevent the proposed agricultural development to continue. (See Map 4 – area to be developed).

⁶⁴National Heritage Resources Act, no. 25 of 1999. pp. 12-14

H. RECOMMENDATIONS & CONCLUSION

The proposed project site, *portion 2 of the farm HERCULINA 155 JU* in the Hectorspruit area is situated on natural as well as previously disturbed land. Visibility was restricted in the natural sections, and the previously disturbed sections were invaded with impenetrable Sickle bush – *Dichrostachys cinerea*. No archaeological material or burial sites were observed during the investigation, and the owner was also not aware of any cultural or heritage features of significance.

Archaeological material or graves are not always visible during a field survey and therefore some significant material may only be revealed during construction activities of the proposed development.

It is recommended that the owner be made aware that distinct archaeological material or human remains may only be revealed during the debushing / agricultural operation. Based on the survey and the findings in this report, Adansonia Heritage Consultants state that there are no compelling reasons which may prevent the proposed development to continue, but it is recommended that earthmoving activities be monitored by a qualified archaeologist and that an assessment be done should any archaeological material be found.

Adansonia Heritage Consultants cannot be held responsible for any archaeological material or graves which were not located during the survey.

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