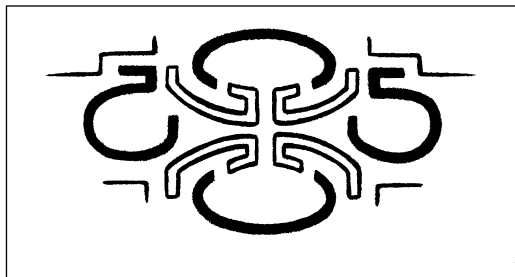


**Cultural Heritage Impact Assessment:
Phase 1 Investigation for the Proposed Tuna Park Open Space Project on the Farm
Bultfontein 192 IR in Nigel, Ekurhuleni Metropolitan Municipality, Gauteng**



For

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Date:	September 2019
Version:	1 (Final Report)

Executive Summary

This report contains a comprehensive heritage impact assessment investigation in accordance with the provisions of Section 38 of the *National Heritage Resources Act* (Act No. 25 of 1999) and focuses on the survey results from a cultural heritage survey as requested by NuLeaf Planning and Environmental Pty (Ltd). In terms of the 2014 Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act 107 of 1998 (NEMA), the Project Applicant hereby gives notice of its intention to apply for Environmental Authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD) as the competent authority, for the proposed Tuna Park Open Space Project in the City of Ekurhuleni Metropolitan Municipality, Nigel, Gauteng.

As a result of the investigation of the survey footprint note that no archaeological (Stone Age and Iron Age) or historical settlements, structures, features, assemblages or artefacts were recorded during the survey.

It is therefore recommended, from a cultural heritage perspective, that the proposed open space project may proceed.

However, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

Definitions and abbreviations

Midden:	Refuse that accumulates in a concentrated heap.
Stone Age:	An archaeological term used to define a period of stone tool use and manufacture
Iron Age:	An archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture
LIA:	Late Iron Age sites are usually demarcated by stone-walled enclosures
NHRA:	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA:	South African Heritage Resources Agency
SAHRIS:	South African Heritage Resources Information System
PHRA-G:	Provincial Heritage Resources Authority - Gauteng
GDARD:	Gauteng Department of Agriculture and Rural Development
HIA:	Heritage Impact Assessment
DMR:	Department of Mineral Resources

I, Francois Coetzee, hereby confirm my independence as a cultural heritage specialist and declare that I do not have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of the listed environmental processes, other than fair remuneration for work performed on this project.



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Cultural Heritage Consultant
Accredited Archaeologist for the SADC Region
Professional Member of ASAPA (CRM Section) Reg no: 28

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1. Introduction and Terms of Reference

NuLeaf Planning and Environmental (Pty) Ltd an independent environmental consultant was contracted by Ekurhuleni Metropolitan Municipality to undertake a Basic Assessment (BA) process provided for in Regulation 19 read with Appendix 1 of GN R326 of 4 December 2014 of the 2014 EIA Regulations, as amended published under NEMA will be followed for the application for Environmental Authorisation. In terms of the 2014 Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act 107 of 1998 (NEMA), the Project Applicant hereby gives notice of its intention to apply for Environmental Authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD) as the competent authority, for the proposed Tuna Park Open Space Project in Nigel, within the Ekurhuleni Metropolitan Municipality, Gauteng. This cultural heritage survey forms part of this Environmental Impact Assessment (EIA) application process.

2. Objectives

The general objective of the cultural heritage survey is to record and document cultural heritage remains consisting of both tangible and intangible archaeological and historical artefacts, structures (including graves), settlements and oral traditions of cultural significance.

As such the terms of reference of this survey are as follows:

- Identify and provide a detailed description of all artefacts, assemblages, settlements and structures of an archaeological or historical nature (cultural heritage sites) located on the study area,
- Estimate the level of significance/importance of these remains in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value,
- Assess any impact on the archaeological and historical remains within the area emanating from the development activities, and
- Propose possible mitigation measures which will limit or prevent any further impact.

3. Description of Physical Environment of Study Area

The heritage survey focussed on an area situated south east of Nigel and is located in Cerutiville (Suruetville) and is adjacent to Mackenzieville and Alra Park. The affected property consists of natural wetland, public open space, sports fields and sports facilities.

Farm Name(s) and Portions	Bultfontein 192 IR • Remainder of a Portion
Size of Survey Area	Approximately 32 hectares
Magisterial District	Nigel Magisterial District Ekurhuleni Metropolitan Municipality
1:50 000 Map Sheet	2628BC
1:250 000 Map Sheet	2628
Central Coordinates of the Development	28.513000°E 26.442945°S

The survey area falls within the Grassland Biome, particularly the Mesic Highveld Grassland Bioregion and more specifically the Soweto Highveld Grassland (Gm 8). This vegetation type occurs in Mpumalanga, Gauteng (and to a very small extent also in neighbouring Free State and North-West) Provinces. In a broad band roughly delimited by the N17 road between Ermelo and Johannesburg in the north, Perdekop in the southeast and the Vaal River (border with the Free State) in the south. It extends further westwards along the southern edge of the Johannesburg Dome (including part of Soweto) as far as the vicinity of Randfontein. In southern Gauteng it includes the surrounds of Vanderbijlpark and Vereeniging as well as Sasolburg in the northern Free State. Soweto Highveld Grassland represents short to medium-high, dense tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. In places not disturbed, only scattered small wetlands, narrow stream alluvia, pans and occasional ridges or rocky outcrops interrupt the continuous grassland cover (Mucina & Rutherford 2006).

The survey footprint is situated on the southern periphery of Nigel. In general the area is characterised by open and flat plains with several drainage lines (the Blesbok River runs further to the west of the survey area). Infrastructure includes buildings, roads, fences, houses, shops, schools, sport facilities and extensive grounds and a large dam.

Nigel normally receives about 586 mm of rain per year, with most rainfall occurring mainly during mid-summer. The region receives the lowest rainfall (0 mm) in June and the highest (115 mm) in January. The monthly distribution of average daily maximum temperatures indicates that the average midday temperatures for Hoedspruit range from 16.7°C in June to 26°C in January. The region is the coldest during July when the mercury drops to 0.1°C on average during the night (SAExplorer 2019)

Current Zoning	Recreational
Economic activities	Informal businesses and recreation
Soil and basic geology	Land type Ba1 includes three different geological types, namely the Vryheid, Dwyka and Malmani subgroups. The Dwyka consists of Tillite with subordinate sandstone, mudstone, shale; intruded by dolerite dykes and sheets. The Malmani Subgroup, Assen and Black Reef formations include Dolomite, chert, subordinate quartzite, conglomerate, shale; diabase and syenite dykes and sills and Vryheid consists of Arenite, shale and coal (Ngema 2018).
Prior activities	Recreational
Socio Economic Environment	Ekurhuleni's population has grown exponentially since its establishment in the year 2000. The population has nearly doubled in the last seventeen years from an estimated 2 368 283 in the year 2000 to 3379104 in 2016. The City's population growth rate is steady at 2.47% per annum, coming down from a high of 4% per annum in the period between 1996 and 2001. The current population represents over 6% of the total population of South Africa. An important feature of growth in the Ekurhuleni population is the net migration into the City. Ekurhuleni, together with Tshwane and Johannesburg are the largest recipients of in-migration in the country. The city has a median age of 30 and 66% of the population is between the ages of 18-64, 18% is below the age of 18 and 6% is above the age of 65. The city has a relatively young population which is about the same rate as that of Gauteng Province. The African (black) population accounts for 80% of the population followed by the white

	population at 14%, the Coloured population at 3% and the Indian population at 2% (Ekurhuleni Metropolitan Municipality IDP 2016).
Evaluation of Impact	An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits NHRA (Act No. 25 of 1999, Section 38(3d)): Positive

Table 1: Socio-economic environment

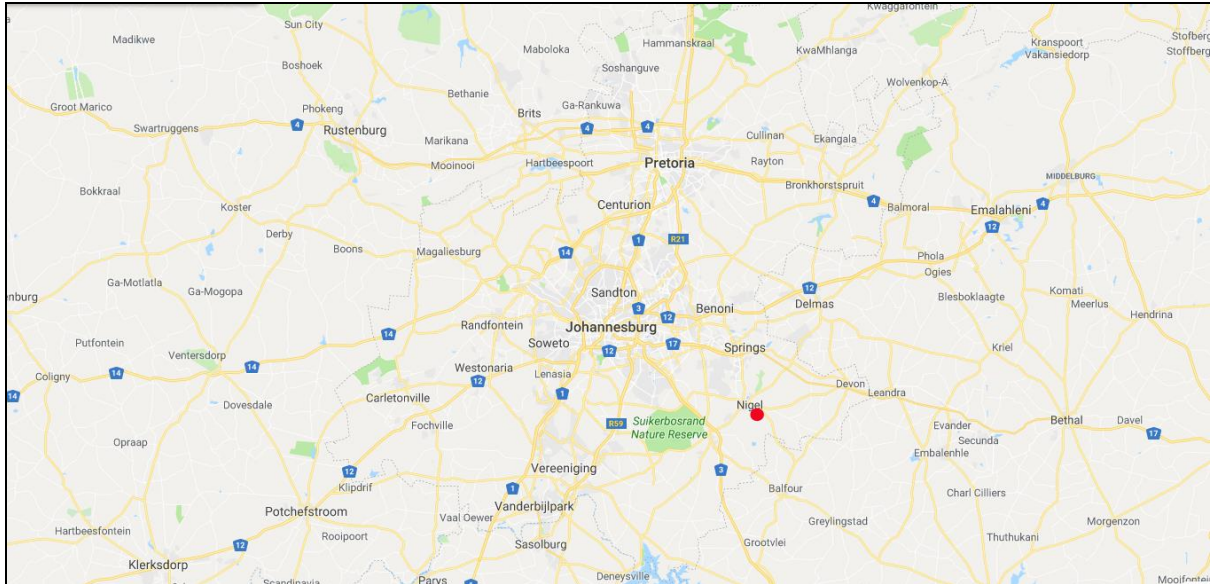


Figure 1: Regional context of the survey area south of Nigel (indicated by the red area)

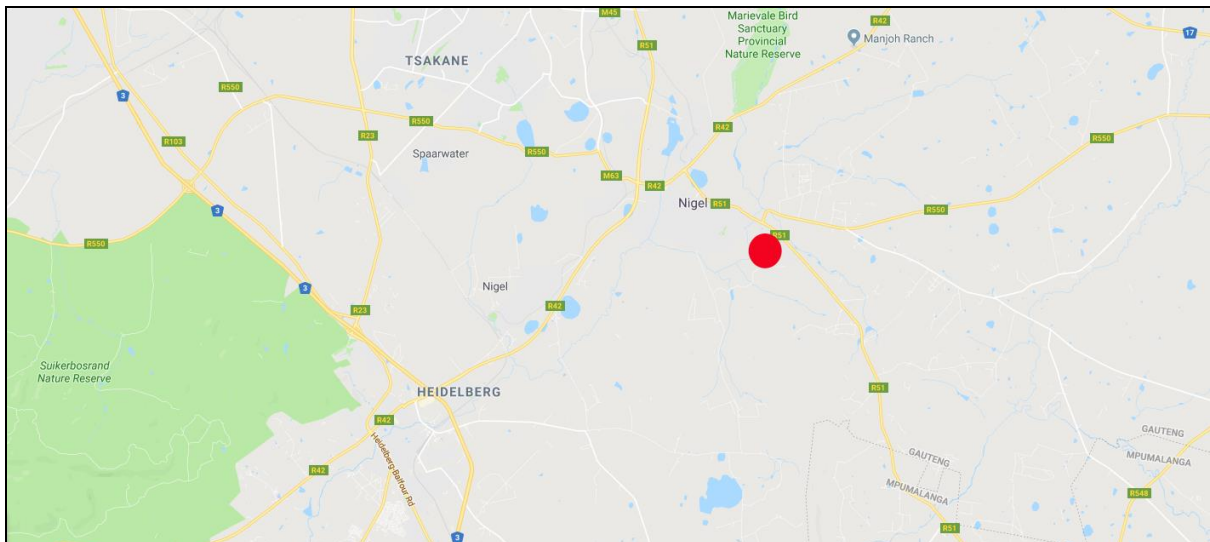


Figure 2: Local context of the survey footprint located south east of Nigel (indicated by the red area)

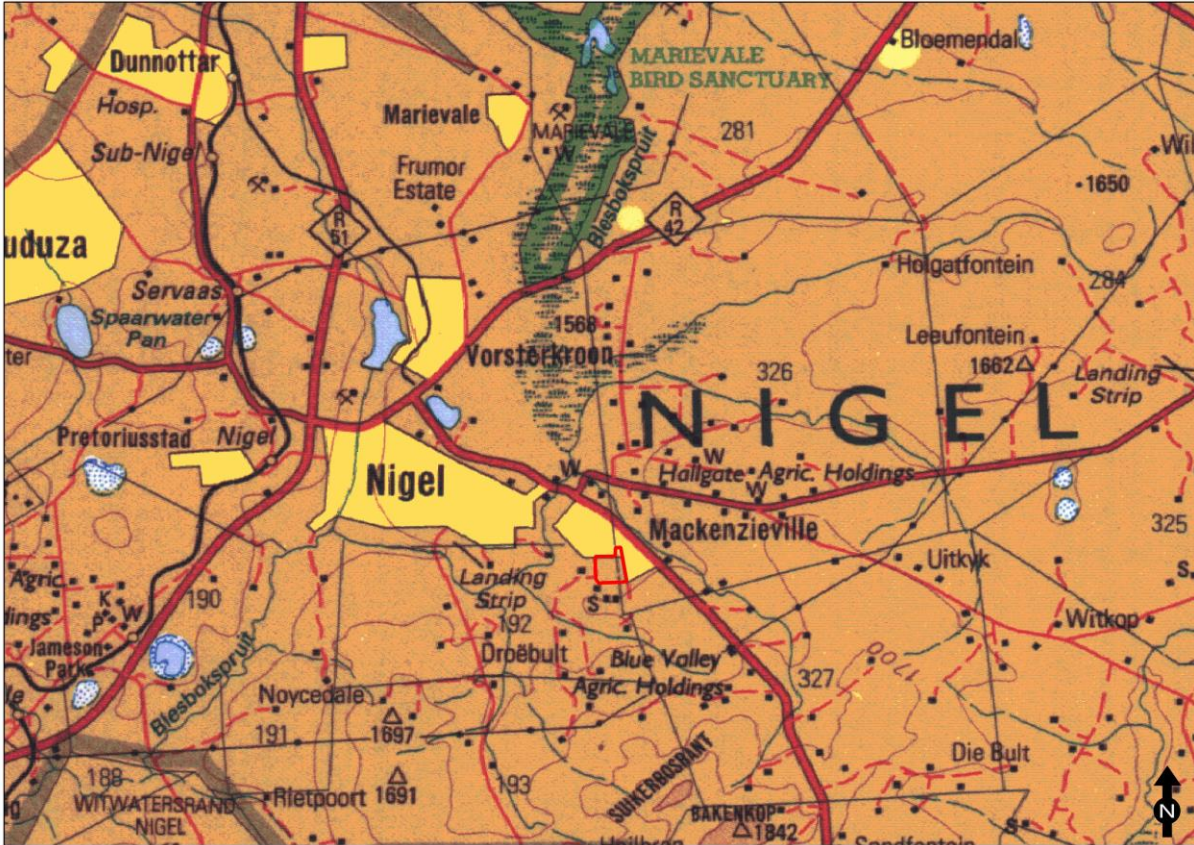


Figure 3: Local context of the survey footprint (1:250 000 Map 2628)

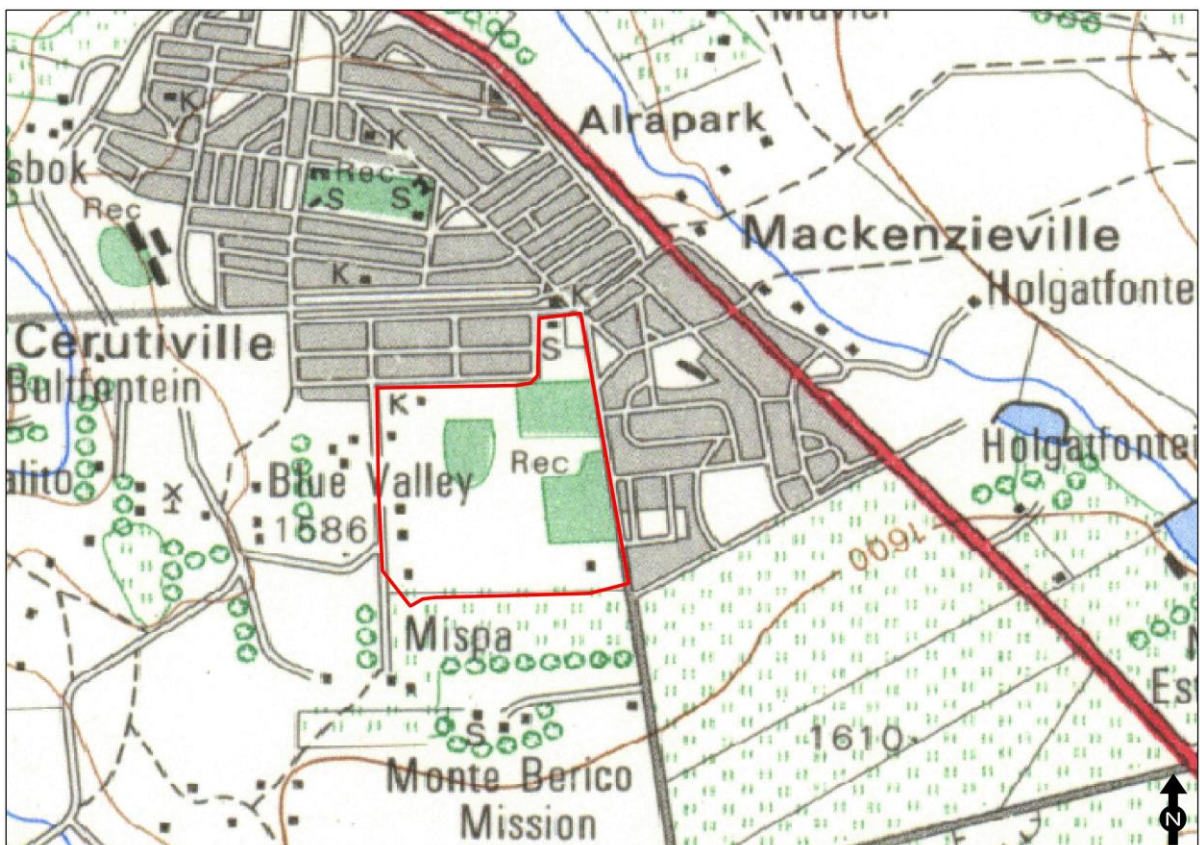


Figure 4: General location of the survey area as indicated on the 1:50 000 topographic map 2628 BC



Figure 5: Survey area within general context (Google Earth Pro 2019)



Figure 6: Survey area within local context (Google Earth Pro 2019)



Figure 7: General view of the sport fields in the eastern section of the survey footprint



Figure 8: General view of the MacKenzieville Civic Centre on the south eastern corner of the survey area



Figure 9: General view of the southern section of the survey footprint



Figure 10: General view of the temporary structures in the southern section of the survey footprint



Figure 11: General view of the southern section of the survey footprint



Figure 12: General view of a brick-making area in the southern section of the survey footprint



Figure 13: General view of informal structures (car wash) near the southern section of the survey footprint



Figure 14: General view of the southern section of the survey footprint



Figure 15: General view of the dam and dilapidated structures in the centre of the survey footprint



Figure 16: General view of the school (Happiness Primary School) in the western section of the survey footprint



Figure 17: General view of the sport fields in the northern section of the survey footprint



Figure 18: General view of ablutions, probably associated with the sport fields in the western section of the survey footprint

4. Proposed Project Description

The proposed scope of the project will include the design, development and open space rehabilitation of Tuna Park, Nigel Gauteng. This will include the clean-up and rehabilitation of the wetland and its surrounds, as well as, improving the recreational quality of the park through the development of a community park that will incorporate pedestrian pathways, sports fields and bridges – this will guide the rehabilitation, landscape design and open space optimisation of the existing Tuna Park.

5. Legal Framework

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE APPLIED
The Constitution of the Republic of South Africa (Act No. 108 of 1996)	
The National Environmental Management Act (Act No. 107 of 1998)	Section 24(1) Section 28(1)
The National Water Act (Act No. 36 of 1998)	
Air Quality Act (Act No. 39 of 2004)	
National Forests Act, Act of 84 of 1998	-
The National Heritage Resources Act (Act No. 25 of 1999)	Section 38, 34, 35, 36
Conservation of Agricultural Resources Act (Act No. 85 of 1983)	
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	
The National Water Act (Act No. 36 of 1998);	
Mine Health and Safety Act (Act No. 29 of 1996) (MHSA)	
Biodiversity Act (Act 10 of 2004)	
Ekurhuleni Metropolitan Municipality Reviewed IDP 2016	

Table 2: Legal framework

- The 2014 EIA Regulations, as amended in April 2017 and its associated Listing Notices [Listing Notice 1 (GN R327) and Listing Notice 3 (GN R324)] specify the activities that require a Basic Assessment. The activities triggered by the proposed development include the following listed activities:

Number and date of the relevant Listing Notice:	Activity Number (s) (in terms of the relevant Listing Notice):	Description of each listed activity as per the detailed project description
GN R.327 (Listing Notice 1)	12 (ii) (a) (c)	The development of (ii) infrastructure or structures with a physical footprint of 100 square metres or more where such a development occurs (a) within a watercourse or (c) within 32 metres of a watercourse.
	19 (i)	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from (i) a watercourse.
	27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.
GN R. 324 (Listing Notice 3)	12 (c) (ii) (iii)	The clearance of an area of 300 square meters or more of indigenous vegetation in (c) Gauteng (ii) within critical biodiversity areas (iii) on land zoned open space, conservation or had an equivalent zoning.
	14 (ii) (a) (c); (c) (iv) (x)	The development of (ii) infrastructure or structures with a physical footprint of 10 square meters or more where such development occurs within (a) a watercourse or (c) within 32 m of a watercourse in (c) Gauteng in (iv) sites identified as CBA's and ESA's and (x) sites zoned for conservation or public open space.

- Section 38 of the NHRA (Act No. 25 of 1999) stipulates that the following activities trigger heritage survey:

Development criteria in terms of Section 38(1a-e) of the NHRA (Act No. 25 of 1999)	Yes/No
Construction of road, wall, powerline, pipeline, canal or other linear form of development or barrier exceeding 300m in length	No
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 m ² in extent	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 m ²	No
Any other development category, public open space, squares, parks, recreation grounds	Yes

Table 3: Activities that trigger Section 38 of the NHRA

- Field rating system as recommended by SAHRA:

Field Rating	Grade	Significance	Recommended Mitigation
National Significance	Grade I	High significance	Conservation by SAHRA, national site nomination, mention any relevant international ranking. No alteration whatsoever without permit from SAHRA.
Provincial Significance	Grade II	High significance	Conservation by provincial heritage authority, provincial site nomination. No alteration whatsoever without permit from provincial heritage authority.
Local Significance	Grade III-A	High significance	Conservation by local authority, no alteration whatsoever without permit from provincial heritage authority. Mitigation as part of development process not advised.

Local Significance	Grade III-B	High significance	Conservation by local authority, no external alteration without permit from provincial heritage authority. Could be mitigated and (part) retained as heritage register site.
Generally Protected A	Grade IV-A	High/medium significance	Conservation by local authority. Site should be mitigated before destruction. Destruction permit required from provincial heritage authority.
Generally Protected B	Grade IV-B	Medium significance	Conservation by local authority. Site should be recorded before destruction. Destruction permit required from provincial heritage authority.
Generally Protected C	Grade IV-C	Low significance	Conservation by local authority. Site has been sufficiently recorded in the Phase 1 HIA. It requires no further recording before destruction. Destruction permit required from provincial heritage authority.

Table 4: Field rating system to determine site significance

- Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and they are valuable, finite, non-renewable and irreplaceable.
- All archaeological remains, features, structures and artefacts older than 100 years and historic structures older than 60 years are protected by the relevant legislation, in this case the **National Heritage Resources Act (NHRA) (Act No. 25 of 1999, Section 34 & 35)**. The Act makes an archaeological impact assessment as part of an EIA and EMPR mandatory (see **Section 38**). No archaeological artefact, assemblage or settlement (site) may be moved or destroyed without the necessary approval from the **South African Heritage Resources Agency (SAHRA)**. Full cognisance is taken of this Act in making recommendations in this report.
- Cognisance will also be taken of the **Mineral and Petroleum Resources Development Act (Act No 28 of 2002)** and the **National Environmental Management Act (Act No 107 of 1998)** when making any recommendations.
- Human remains older than 60 years are protected by the **NHRA**, with reference to **Section 36**. Human remains that are less than 60 years old are protected by the Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003 as well as local Ordinances and regulations.
- With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise.
- The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3, and the Australian ICOMOS (International Council on Monuments and Sites) Charter (also known as the Burra Charter) are used when determining the cultural significance or other special value of archaeological or historical sites.
- A copy of this report will be submitted on SAHRIS as stipulated by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), Section 38 (especially subsection 4) and the relevant Provincial Heritage Resources Authority (PHRA).

- Note that the final decision for the approval of permits, or the removal or destruction of sites, structures and artefacts identified in this report, rests with the SAHRA (or relevant PHRA).

6. Study Approach/Methods

Regional maps and other geographical information (ESRI shapefiles) were supplied by NuLeaf Planning and Environmental (Pty) Ltd. The most up-to-date Google Earth images and topographic maps were used to indicate the survey area. Topographic maps were sourced from the Surveyor General. Please note that all maps are orientated with north facing upwards (unless stated otherwise).

The strategy during this survey was to focus on the footprint of the survey area. The main focus was to locate all heritage remains. An intensive (intuitive) pedestrian survey was conducted at the site.



Figure 19: Recorded survey tracks for the project

6.1 Review of existing information/data

Additional information on the cultural heritage of the area was sourced from the following records:

- National Mapping Project by SAHRA (which lists heritage impact assessment reports submitted for South Africa);
- Environmental Potential Atlas (ENPAT);
- Online SAHRIS database;

- National Automated Archival Information retrieval System (NAAIRS);
- Maps and information documents supplied by the client; and
- Several surveys have been conducted in the general region (published and unpublished material) (Coetzee 2009, 2012 & 2017).

A few heritage surveys have been completed in the general vicinity of the project footprint during the last few years. However, no heritage sites were recorded near the survey footprint as indicated by SAHRIS 2019.

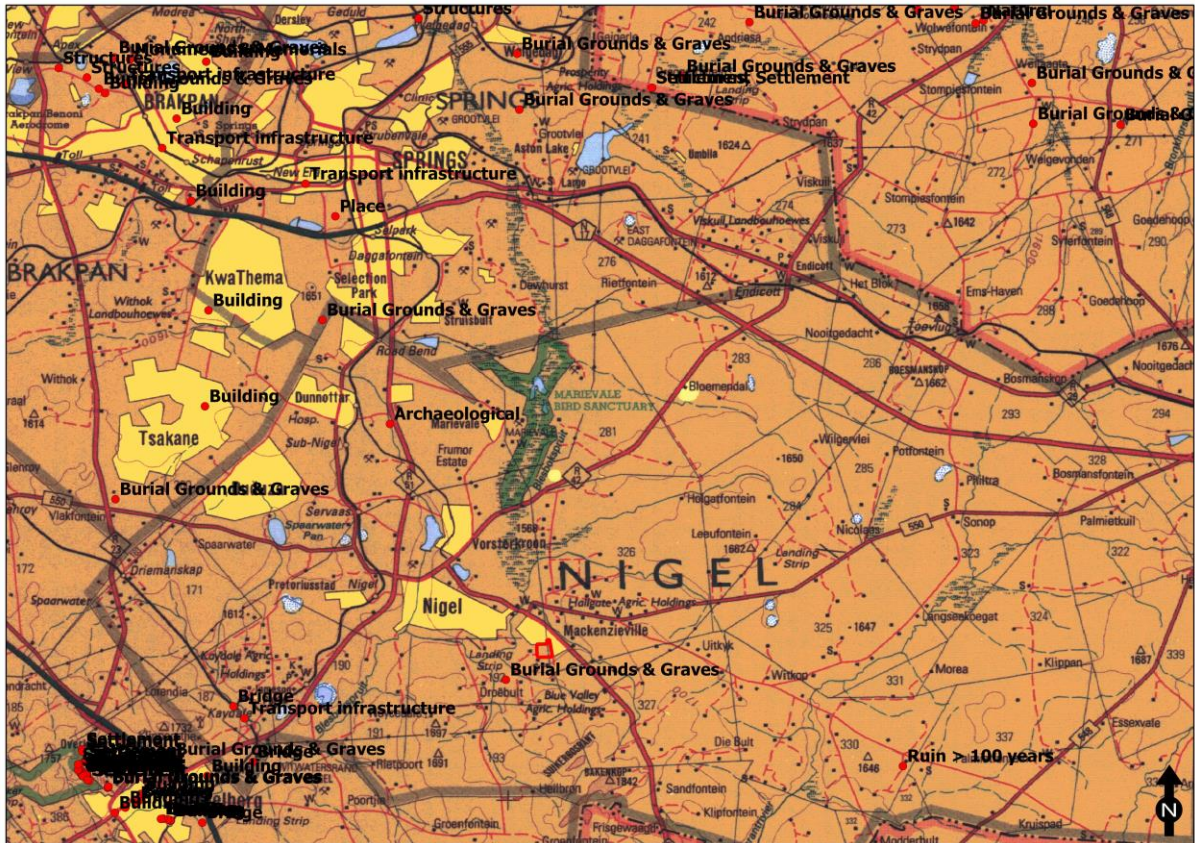


Figure 20: Heritage sites recorded in the region as indicated on the SAHRIS database (September 2019)

According to the Surveyor General's database the farm Bultfontein 192 IR was originally surveyed in 1916, although Deed of Transfer was already granted to LL Breytenbach in 1867 (see Addendum 3).

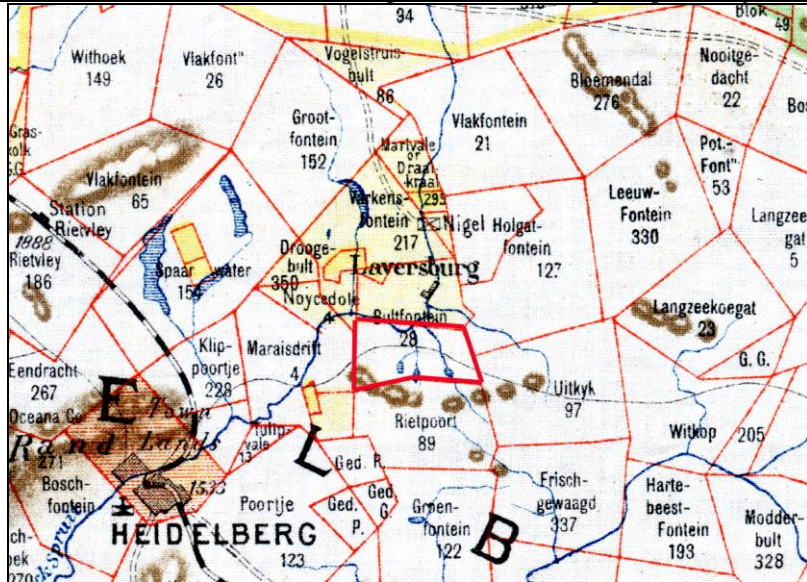


Figure 21: Jeppe's Map dating to 1899 clearly indicates that the boundaries of the farms under investigation

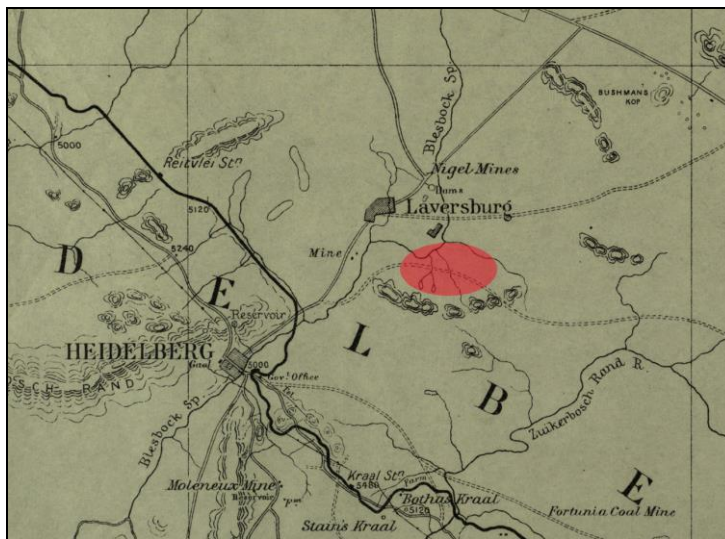


Figure 22: War Office Map indicating the probable location of the survey area as it was in 1900

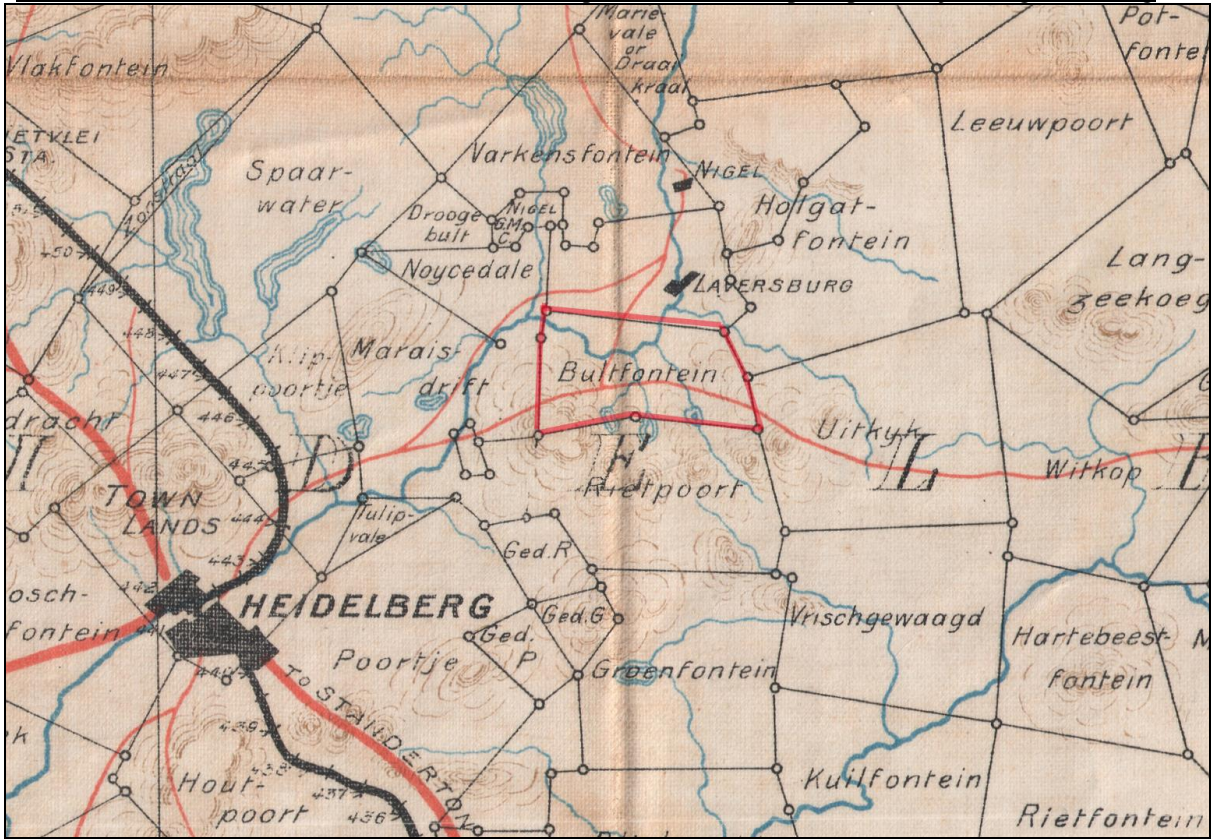


Figure 23: Imperial Map of South Africa, Field Intelligence Department (1900)

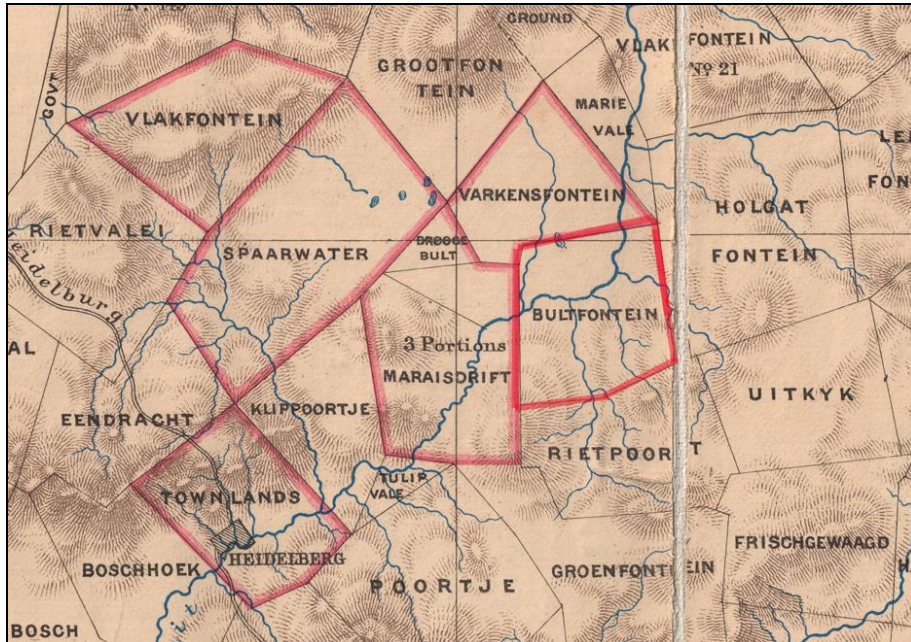


Figure 24: Map of the Pretoria and Heidelberg Goldfields (1887)

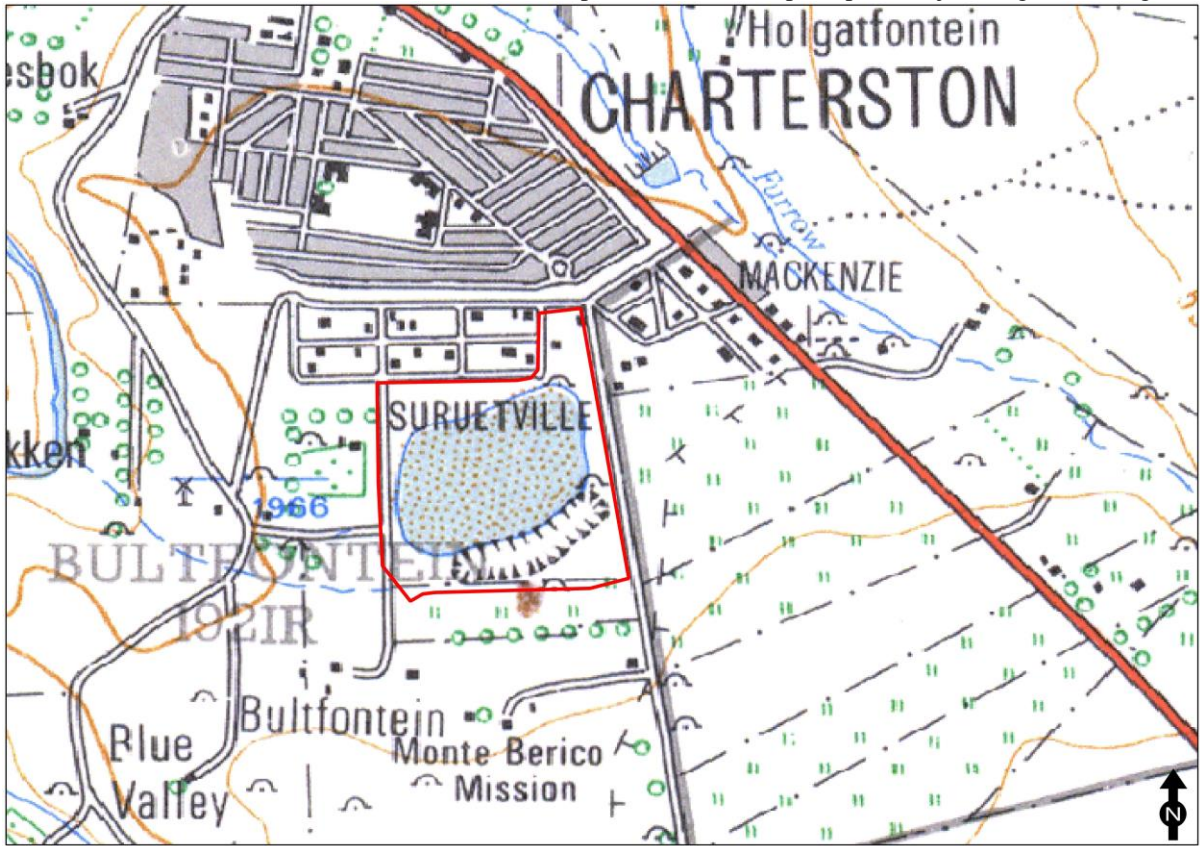


Figure 25: General location of the survey area as indicated on the 1:50 000 topographic map 2628 BC (1966)

6.2 Palaeontological sensitivity

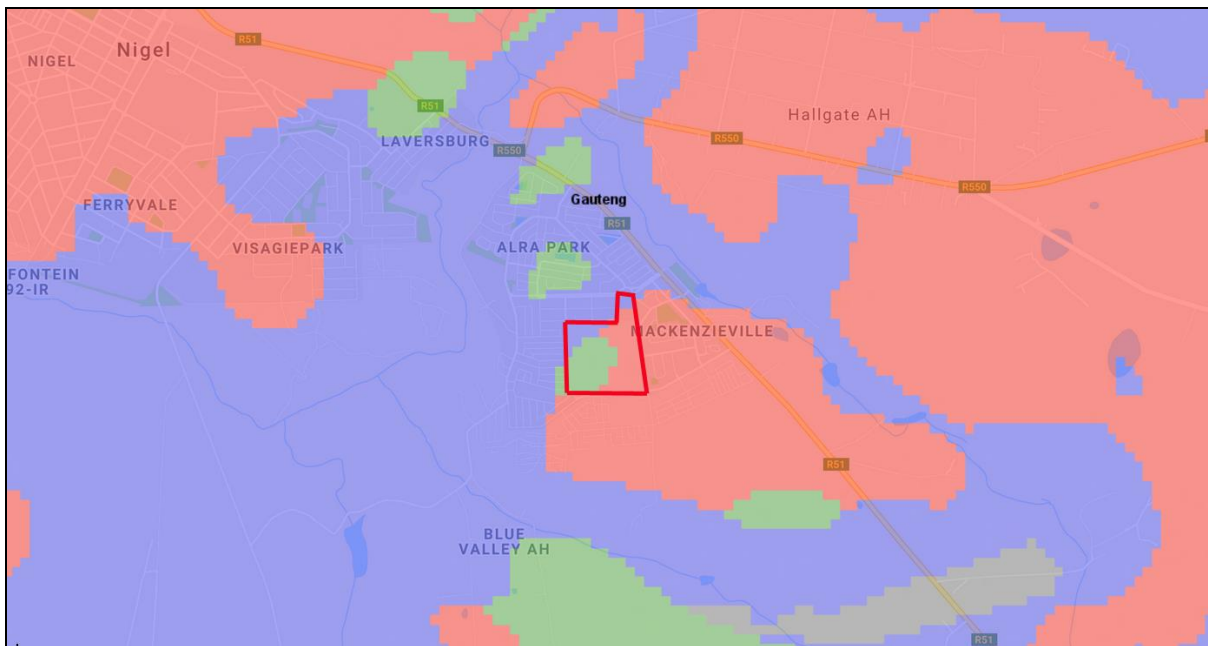


Figure 26: Palaeontological sensitivity zones as indicated for the survey footprint (SAHRIS 2019)

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	Will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

The palaeontological sensitivity map was extracted from the SAHRIS database and clearly shows red, green and blue (very high, moderate and low) sensitivity. As a result no palaeontological study will be required for the survey footprint.

6.3 Site visits

The field survey was conducted on 4 August 2019.

6.4 Social interaction and current inhabitants

Local occupants were consulted during the survey to locate any potential heritage sites in the region.

6.5 Public Consultation and Stakeholder Engagement

The EAP will be conducting a Public Participation Process, and afford any and all persons interested and/or affected by the proposed development an opportunity to register and participate in the process. A 30 day registration period is allowed for, as well as, an opportunity to ask questions, submit concerns etc. The EAP will then prepare a Draft Basic Assessment Report (BAR), inclusive of specialist reports and a draft Environmental Management Programme (EMPr), which describes both the project and the environment and assesses the anticipated impact of the project on the environment, and makes recommendations in terms of mitigation and management. Once complete, the Draft BAR will be circulated to all registered I&APs who are entitled to submit written comments in respect thereof. A 30 day comment period is allowed for in terms of Regulation 40 (1) of the 2014 EIA Regulations. Once all comments from registered I&APs have been addressed, the EAP will submit the Final BAR to the Competent Authority for consideration.

6.6 Assumptions, restrictions, gaps and limitations

No severe physical restrictions were encountered as the survey area was fairly accessible. However due to the central water feature access was limited to the periphery of the survey footprint.

6.7 Methodology for assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The **physical extent**, wherein it is indicated whether:
 - 1 - the impact will be limited to the site;
 - 2 - the impact will be limited to the local area;
 - 3 - the impact will be limited to the region;
 - 4 - the impact will be national; or
 - 5 - the impact will be international.
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
 - 1 - of a very short duration (0–1 years);
 - 2 - of a short duration (2-5 years);
 - 3 - of a medium-term (5–15 years);
 - 4 - of a long term (> 15 years); or
 - 5 - permanent.
- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
 - 0 - small and will have no effect;
 - 2 - minor and will not result in an impact;
 - 4 - low and will cause a slight impact;
 - 6 - moderate and will result in processes continuing but in a modified way;
 - 8 - high, (processes are altered to the extent that they temporarily cease); or
 - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
 - 1 - very improbable (probably will not happen);
 - 2 - improbable (some possibility, but low likelihood);
 - 3 - probable (distinct possibility);
 - 4 - highly probable (most likely); or
 - 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
 - The degree to which the impact can be reversed;
 - The degree to which the impact may cause irreplaceable loss of resources; and
 - The degree to which the impact can be mitigated.

The significance is determined by combining the criteria in the following formula:

$S = (E+D+M) \times P$; where:

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

Points	Significance Weighting	Discussion
< 30 points	Low	Where this impact would not have a direct influence on the decision to develop in the area.
31-60 point	Medium	Where the impact could influence the decision to develop in the area unless it is effectively mitigated.
> 60 points	High	Where the impact must have an influence on the decision process to develop in the area.

7. The Cultural Heritage Sites

7.1. Isolated occurrences

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore provide a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint.

No isolated finds were recorded.

7.2 Heritage sites

None

8. Locations and Evaluation of Sites

No sites were recorded.

9. Management Measures

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

9.1 Objectives

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).

9.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

10. Recommendations and Conclusions

As a result of the investigation of the survey footprint note that no archaeological (Stone Age and Iron Age) or historical settlements, structures, features, assemblages or artefacts were recorded during the survey.

It is therefore recommended, from a cultural heritage perspective, that the proposed open space project may proceed.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

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Addendum 1: Archaeological and Historical Sequence

The table provides a general overview of the chronological sequence of the archaeological periods in South Africa.

PERIOD	APPROXIMATE DATES
Earlier Stone Age	more than 2 million years ago to >200 000 years ago
Middle Stone Age	<300 000 years ago to >20 000 years ago
Later Stone Age (Includes hunter-gatherer rock art)	<40 000 years ago up to historical times in certain areas
Early Iron Age	c. AD 200 - c. AD 900
Middle Iron Age	c. AD 900 – c. AD 1300
Late Iron Age (Stonewalled sites)	c. AD 1300 - c. AD 1840 (c. AD 1640 - c. AD 1840)

< = less than; > = greater than

Archaeological Context

Stone Age Sequence

Concentrations of Early Stone Age (ESA) sites are usually present on the flood-plains of perennial rivers and may date to over 2 million years ago. These ESA open sites may contain scatters of stone tools and manufacturing debris and secondly, large concentrated deposits ranging from pebble tool choppers to core tools such as handaxes and cleavers. The earliest hominins who made these stone tools, probably not always actively hunted, instead relying on the opportunistic scavenging of meat from carnivore fill sites.

Middle Stone Age (MSA) sites also occur on flood plains, but are also associated with caves and rock shelters (overhangs). Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom preserve. Limited drive-hunting activities are also associated with this period.

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

The following chronological sequence was recently established by prominent Stone Age archaeologists (Lombard et al 2012):

Later Stone Age

- Age Range: recent to 20-40 thousand years ago
 - General characteristics: expect variability between assemblages, a wide range of formal tools, particularly scrapers (microlithic and macrolithic), backed artefacts, evidence of hafted stone and bone tools, borers, bored stones, upper and lower grindstones, grooved stones, ostrich eggshell (OES) beads and other ornaments, undecorated/decorated OES fragments, flasks/flask fragments, bone tools (sometimes with decoration), fishing equipment, rock art, and ceramics in the final phase.
- **Ceramic or Final Later Stone Age**
 - Generally < 2 thousand years ago
 - MIS 1
 - Contemporaneous with, and broadly similar to, final Later Stone Age, but includes ceramics
 - Economy may be associated with hunter-gatherers or herders

Technological characteristics

- Stone tool assemblages are often microlithic
 - In some areas they are dominated by long end scrapers and few backed microliths; in others formal tools are absent or rare
 - Grindstones are common, ground stone artefacts, stone bowls and boat-shaped grinding grooves may occur
 - Includes grit- or grass-tempered pottery
 - Ceramics can be coarse, or well-fired and thin-walled; some times with lugs, spouts and conical bases; sometimes with decoration; sometimes shaped as bowls
 - Ochre is common
 - Ostrich eggshell (OES) is common
 - Metal objects, glass beads and glass artefacts also occur
- **Final Later Stone Age**
 - 100 – 4000 years ago
 - MIS 1
 - Hunter-gatherer economy

Technological characteristics

- Much variability can be expected
- Variants include macrolithic (similar to Smithfield [Sampson 1974]) and/or microlithic (similar to Wilton) assemblages
- Assemblages are mostly informal (Smithfield)
- Often characterised by large untrimmed flakes (Smithfield)
- Sometimes microlithic with scrapers, blades and bladelets, backed tools and adzes (Wilton-like)
- Worked bone is common
- OES is common
- Ochre is common
- Iron objects are rare
- Ceramics are absent

- **Wilton**
 - 4000 – 8000 years ago
 - MIS 1
 - At some sites continues into the final Later Stone Age as regional variants (e.g. Wilton Large Rock Shelter and Cave James)

Technological characteristics

- Fully developed microlithic tradition with numerous formal tools
 - Highly standardised backed microliths and small convex scrapers (for definition of standardisation see Eerkens & Bettinger 2001)
 - OES is common
 - Ochre is common
 - Bone, shell and wooden artefacts occur
- **Oakhurst**
 - 7000 – 12 000 years ago
 - MIS 1
 - Includes Albany, Lockshoek and Kuruman as regional variants

Technological characteristics

- Flake based industry
 - Characterised by round, end, and D-shaped scrapers and adzes
 - Wide range of polished bone tools
 - Few or no microliths
- **Robberg**
 - 12 000 to 18 000 years ago
 - MIS 2

Technological characteristics

- Characterised by systematic bladelet (<26mm) production and the occurrence of outils ecailles or scaled pieces
 - Significant numbers of unretouched bladelets and bladelet cores
 - Few formal tools
 - Some sites have significant macrolithic elements
- **Early Late Stone Age**
 - 18 000 – 40 000 years ago
 - MIS 2-3
 - Informal designation
 - Also known as transitional MSA-LSA
 - Overlapping in time with final Middle Stone Age

Technological Characteristics

- Characterised by unstandardised, often microlithic, pieces and includes the bipolar technique

- Described at some sites, but not always clear whether assemblages represent a real archaeological phase or a mixture of LSA/MSA artefacts

Middle Stone Age

- Age Range: 20 000 – 30 000 years ago
- General characteristics: Levallois or prepared core techniques (for definitions see Van Peer 1992; Boeda 1995; Pleurdeau 2005) occur in which triangular flakes with convergent dorsal scars, often with faceted striking platforms, are produced. Discoidal systems (for definition see Inizan et al. 1999) and intentional blade production from volumetric cores (for definition see Pleurdeau 2005) also occur; formal tools may include unifacially and bifacially retouched points, backed artefacts, scrapers, and denticulates (for definition see Bisson 2000); evidence of hafted tools; occasionally includes marine shell beads, bone points, engraved ochre nodules, engraved OES fragments, engraved bone fragments, and grindstones.
- In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **Final Middle Stone Age**
 - 20 000 – 40 000 years ago
 - MIS 3
 - Informal designation partly based on the Sibudu sequence

Technological characteristics

- Characterised by high regional variability that may include, e.g. bifacial tools, bifacially retouched points, hollow-based points
- Triangular flake and blade industries (similar to Strathalan and Melikane)
- Small bifacial and unifacial points (similar to Sibudu and Rose Cottage Cave)
- Sibudu point characteristics: short, stout, lighter in mass compared to points from the Sibudu technocomplex, but heavier than those from the Still Bay
- Can be microlithic
- Can include bipolar technology
- Could include backed geometric shapes such as segments, as well as side scrapers

Sibudu

- 45 000 – 58 000 years ago
- MIS 3
- Previously published as informal late Middle Stone Age and post-Howieson's Poort at Sibudu
- Formerly known post-Howieson's Poort, MSA 3 generally, and MSA III at Klasies River

Technological characteristics

- Most points are produced using Levallois technique
- Most formal retouch aimed at producing unifacial points
- Sibudu unifacial point (type fossil) characteristics: faceted platform; shape is somewhat elongated with a mean length of 43.9 mm, a mean breadth of 26.8 mm and mean thickness of 8.8 mm (L/B ratio 1.7); their mean mass is 11.8 g (Mohapi, 2012)
- Some plain butts

- Rare bifacially retouched points
- Some side scrapers are present
- Backed pieces are rare

- **Howieson's Poort**

- 58 000 – 66 000 years ago
- MIS 3-4

- **Technological characteristics**

- Characterised by blade technology
- Includes small (<4 cm) backed tools, e.g. segments, scrapers, trapezes and backed blades
- Some denticulate blades
- Pointed forms are rare or absent

- **Still Bay**

- 70 000 – 77 000 years ago
- MIS 4-5a

- **Technological characteristics**

- Characterised by thin (<10 mm), bifacially worked foliate or lanceolate points
- Semi-circular or wide-angled pointed butts
- Could include blades and finely serrated points (Lombard et al. 2010)

- **Pre-Still Bay**

- 72 000 – 96 000 years ago
- MIS 4-5

- **Technological characteristics**

- Characteristics currently being determined / studied

- **Mossel Bay**

- 77 000 to —105 000 years ago
- MIS 5a-4
- Also known as MSA II at Klasies River or MSA 2b generally

- **Technological characteristics**

- Characterised by recurrent unipolar Levallois point and blade reduction
- Products have straight profiles; percussion bulbs are prominent and often splintered or ring-cracked
- Formal retouch is infrequent and restricted to sharpening the tip or shaping the butt

- **Klasies River**

- 105 000 to —130 000 years ago
- MIS 5d-5e
- Also referred to as MSA I at Klasies River or MSA 2a generally

- **Technological characteristics**

- Recurrent blade and convergent flake production

- End products are elongated and relatively thin, often with curved profiles
- Platforms are often small with diffused bulbs
- Low frequencies of retouch
- Denticulate pieces
- **Early Middle Stone Age**
 - Suggested age MIS 6 to MIS 8 (130 000 to —300 000 years ago)
 - Informal designation

Technological characteristics

- This phase needs future clarification regarding the designation of cultural material and sequencing
- Includes discoidal and Levallois flake technologies, blades from volumetric cores and a generalised toolkit
- **Earlier Stone Age**
 - Age range: >200 000 to 2 000 000 years ago
 - General characteristics: early stages include simple flakes struck from cobbles, core and pebble tools; later stages include intentionally shaped handaxes, cleavers and picks; final or transitional stages have tools that are smaller than the preceding stages and include large blades.
 - In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **ESA-MSA transition**
- 200 to —600 thousand years ago
- MIS 7-15

Technological characteristics

- Described at some sites as Fauresmith or Sangoan
- Relationships, descriptions, issues of mixing and ages yet to be clarified
- Fauresmith assemblages have large blades, points, Levallois technology, and the remaining ESA components have small bifaces
- The Sangoan contains small bifaces (<100 mm), picks, heavy and light-duty denticulated and notched scrapers
- The Sangoan is less well described than the Fauresmith
- **Acheulean**
 - 300 thousand to —1.5 million years ago
 - MIS 8-50

Technological characteristics

- Bifacially worked handaxes and cleavers, large flakes > 10 cm
- Some flakes with deliberate retouch, sometimes classified as scrapers
- Gives impression of being deliberately shaped, but could indicate result of knapping strategy
- Sometimes shows core preparation
- Generally found in disturbed open-air locations

- **Oldowan**
 - 1.5 to >2 million years ago
 - MIS 50-75

Technological characteristics

- Cobble, core or flake tools with little retouch and no flaking to predetermined patterns
- Hammerstones, manuports, cores
- Polished bone fragments/tools

Iron Age Sequence

In the northern regions of South Africa at least three settlement phases have been distinguished for early prehistoric agropastoralist settlements during the **Early Iron Age** (EIA). Diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. The first phase of the Early Iron Age, known as **Happy Rest** (named after the site where the ceramics were first identified), is representative of the Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of **Diamant** is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the **Eiland** tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. These sites are usually located on low-lying spurs close to water.

The Late Iron Age (LIA) settlements are characterised by stone-walled enclosures situated on defensive hilltops c. AD 1640 - AD 1830). This occupation phase has been linked to the arrival of ancestral Northern Sotho, Tswana and Ndebele (Nguni-speakers) in the northern regions of South Africa with associated sites dating between the sixteenth and seventeenth centuries AD. The terminal LIA is represented by late 18th/early 19th century settlements with multichrome Moloko pottery commonly attributed to the Sotho-Tswana. These settlements can in many instances be correlated with oral traditions on population movements during which African farming communities sought refuge in mountainous regions during the processes of disruption in the northern interior of South Africa, resulting from the so-called difaqane (or mfecane).

Sites that were identified during the survey are archaeological sites dated to the later (stone walled) phase of the Late Iron Age (c. AD 1640 - AD 1830s) also known as the Late Moloko. These sites all conform to a general settlement layout that forms part of a certain worldview. As such, the livestock enclosures are situated in the central area of a settlement. The court (kgotla) is also located in this central area and is associated with men (men are usually also buried here). The surrounding scalloped walling is where the houses are situated and is associated with women. This type of settlement layout is generally known as the Central Cattle Pattern (CCP).

Ethno-historical Context

Difaqane (mfecane)

The period of upheaval known as the Difaqane (Mfecane) had widespread implications for the northern interior of South Africa. Mzilikazi, one of the generals of King Shaka of the Zulu kingdom left KwaZulu-Natal in 1820 and took his Khumalo clan north-westward on a journey which changed the face of the South African interior. He first reached to Pedi people north of the Olifants and Steelpoort Rivers and took over their land. A year later and after a lengthy sojourn the group arrived at the slopes of the Magaliesberg Mountains in the Pretoria area in about 1827. Mzilikazi established two military kraal or capitals. The one was situated on the Apies River called enDinaneni which was situated north-west of Pretoria on the road to Hartebeespoort Dam and enKungweni which was built along the Daspoort range of hills.

His main residence was on the south side of Meintjieskop, but he later moved to the north of the Magaliesberg Mountains, to a place named emHlahlandlela. This aggressive occupation of the land forced the local Ndebele (Ndzundza) groups to scatter and hide in mountainous areas. Later during the 1830s Mzilikazi moved further west to establish a capital at Gabeni, north of Zeerust where he subjugated various Sotho Tswana groups in the area. His power was only challenged in 1837 by a combined Boer, Tswana and Griqua force. Mzilikazi later migrated into Zimbabwe and established his next capital, Bulawayo (Rasmussen 1977).

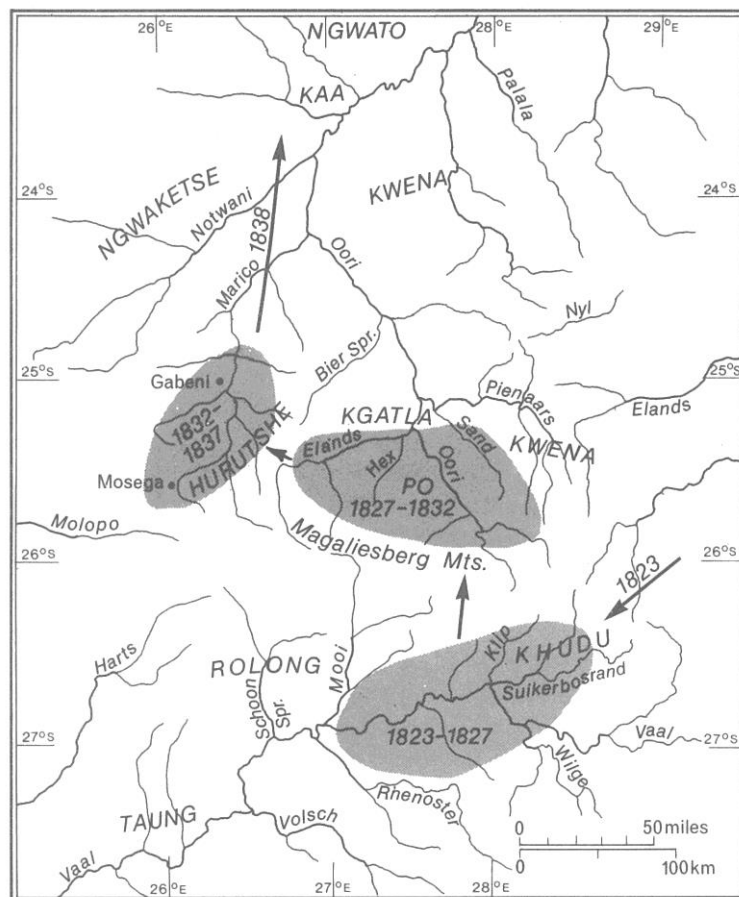


Figure 27: The location of the major spheres of influence of Mzilikazi from the early 1820s to late 1830s

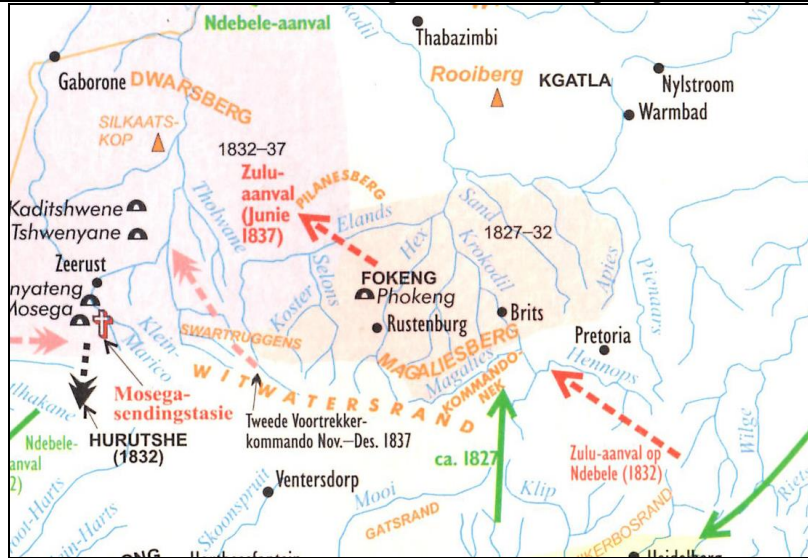


Figure 28: Movement of Mzilikazi's warriors relative to the survey area north of Brits (after Bergh 1998)

Built Environment and Mining Activities

Nigel

Petrus Johannes (Lang Piet) Marais, a Heidelberg storekeeper, was the owner of the farm Varkensfontein. As a result of growing gold fever in the Witwatersrand he employed a prospector by the name of Johnstone to examine his farm in 1886. The story goes that Lang Piet was reading *The Fortunes of Nigel* by Sir Walter Scott at the time when a well-dressed stranger walked into his shop offering to buy his farm for much more than the £400 it was worth. Thinking of the book and how the hero had almost been swindled out of his fortune, he became cautious and declined the offer, but offered the man a half share in his farm for £10 000. The stranger left.

Lang Piet then hastily rode out to the farm only to find Johnstone drunk in his tent. He admitted that he discovered a reef and that he accepted £50 and a case of liquor for not disclosing his find.

Lang Piet retained his farm and a company took up the share of £10 000 in his farm and he became the major shareholder in the Nigel Mining Co. formed in July 1888. The town that was established next to the gold find was duly named Nigel. Several street names of the town were also taken from the novel.

This is one account for the name. Alternatively, the town was actually named after Nigel MacLeish who discovered the gold reef on which the Nigel mine was to be developed.

Marais attributed his luck to the novel he had been reading and therefore, called his company Nigel (after the character in the novel) and in this way, the town of Nigel came into being. In 1888 the state president Paul Kruger declared Nigel as a public digging under notice 331 and since then the history and development of Nigel are inseparable from those of the gold mines

According to archival documents it seems that the gold mining took on several phases and the controlling company also took on various shapes:

- 1896 - Marievale Nigel Gold Mining Company
- 1935 – Marievale Nigel Gold Mining and Estate Ltd
- 1935 – Marievale Consolidated Mines Ltd
- Today – Gencor owns the Marievale Mine

The town was little more than a mining camp until 1923, when the control of the town was passed into the hands of a Dorpvillage. The first meeting of this council was held on 2 January 1923. The Sub Nigel mine had meanwhile, come into existence and proved to be the richest gold mine in the world. As a result of this fact a great influx of people to the town occurred. Within a space of seven years the local authority was given increased status and in 1930 was elevated to a Town Council.

On 24 November 1930 the first meeting of the Town Council was held and Mr CL Mackle was elected the first mayor. This event also marked the starting point of fast growth of Nigel with the town's first municipal building to be built some two to three years later.

The years 1934 to 1939 saw the most noteworthy development of the town. This includes the municipal building in Hendrik Verwoerd Street, Barclays Bank, Standard Bank, the Fire Brigade and Police Station. This was only slowed down by the outbreak of World War II. During those five years, no less than five suburbs were proclaimed and speculation in fixed property soared. The railway line between Springs, Nigel and Heidelberg was opened on 18 October 1935 (Heidelberg Herald 2017).

A Reduction Plant was already in operation in 1939 and a seven tube Mill erected in 1952. In the 1950s they also sunk shafts 3 and 5.

Dunnottar Landing Strip

The South African Air Force was started in 1921 and was based at Zwartkops in Pretoria. The main training activities later moved to Bloemspruit (Bloemfontein). After the Second World War the 24 Air School which was charged with training pilots and instructors moved to Dunnottar Airbase on 11 November 1940 with personnel starting to arrive in July 1941. The runways were grass-based. On 18 November 1945 commenced with 71 Harvards and 6 Oxfords. The Dunnottar Airbase also housed the required infrastructure to utilise and maintain the Harvard aircraft for training. In January 1946 the 24 Air School stopped active training and eventually closed on 3 September 1946 after which the Central Flying School (CFS) took over. In February 1968 the School changed its name to Flying Training School Dunnottar, but reverted back to its CFS title in January 1977. The CFS finally moved to Langebaanweg in December 1991. Today all the infrastructure of the base is incorporated into the Marie Vale Army Camp 1 (Construction Regiment) and only the grass landing strips are still used by the Aero Club of South Africa for various air sports such as paragliding (with winches) and other air show events.

There are 6 landing strips in total. Three landing strips run south south-west to north north-east and another three run north south. Their layout is demarcated with white painted cement blocks and cement strips at the beginning and end. Lanterns could be inserted in them for night landings.

PRASA is currently preparing an industrial site adjacent to the Dunnottar Army Base, between Nigel and Springs.



Figure 29: The layout of the Military base today (on the left); the functioning air base in 1942 (on the right)

Addendum 2: Description of the Recorded Sites

A system for grading the significance of heritage sites was established by the NHRA (Act No. 25 of 1999) and further developed by the South African Heritage Resources Agency (SAHRA 2007) and has been approved by ASAPA for use in southern Africa and was utilised during this assessment.

Example of assessment criteria used

A. GENERAL SITE DESCRIPTION				
Site type				
Site Period				
Physical description				
Integrity of deposits or structures				
Site extent				
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				
It has significance relating to the history of slavery in South Africa.				
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.				
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.				
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.				
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.				
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				
National				
Provincial				
Local				
Specific community				
D. FIELD REGISTER RATING				

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	
E. GENERAL STATEMENT OF SITE SIGNIFICANCE	
Low	
Medium	
High	
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT	
None	
Peripheral	
Destruction	
Uncertain	
G. RECOMMENDED MITIGATION	
•	
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS	
•	
I. PHOTOGRAPHS	

Addendum 3: Surveyor General Farm Diagram

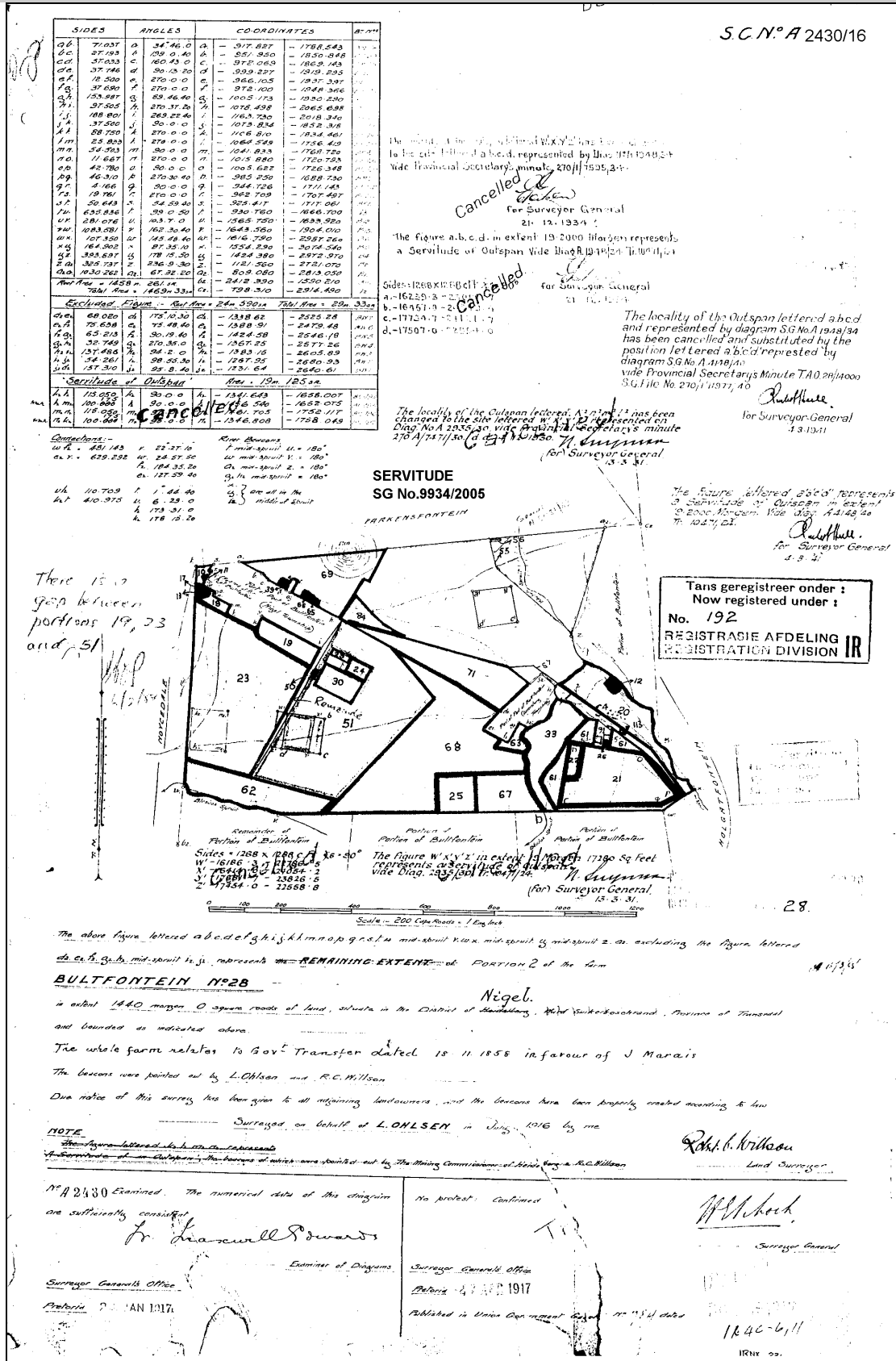


Figure 30: Surveyor General's sketch of the farm Bultfontein 192 IR first surveyed in 1916

Addendum 4: Relocation of Graves

Marked graves younger than 60 years do not fall under the protection of the NHRA (Act No. 25 of 1999) with the result that exhumation, relocation and reburial can be conducted by an undertaker. This will include logistical aspects such as social consultation, purchasing of plots in cemeteries, procurement of coffins, etc. Other legislative measures which may be pertinent include the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003, Ordinance on Exhumations (Ordinance No. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

Marked graves older than 60 years are protected by the NHRA (Act No. 25 of 1999) and as a result an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. Note that unmarked graves are by default regarded as older than 60 years and therefore also falls under the NHRA (Act No. 25 of 1999, Section 36).

The relocation of graves entails the following procedure:

- Notices of intent to relocate the graves must be put up at the burial site for a period of 60 days. This should contain contact information where communities and family members can register as interested and affected parties. All information pertaining to the identification of the graves must be documented for the application of a SAHRA permit. All notices must be in at least 3 languages, of which English is one. This is a requirement by law.
- These notices of intention must also be placed in at least two local newspapers and have the same information as above.
- Local radio stations can also be used to try contact family members. This is not required by law, but can be helpful.
- During this time (60 days) a suitable cemetery must be identified near to the development or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account.
- Once the 60 days have passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been issued, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any remains and any additional objects found in the grave.

Information needed for the SAHRA permit application

- The permit application must be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- A letter of permission from the landowner granting permission to the developer to exhume and relocate the graves.

- A letter (or proof of purchase of the plots) from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

Graves are generally be classified into four categories. These are:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict or of individuals of royal descent.