

Heritage Impact Assessment Report

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED VULCANIA CEMETERY DEVELOPMENT

PREPARED BY:

G&A HERITAGE



PREPARED FOR:

GALAGO ENVIRONMENTAL CC



CREDIT SHEET

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Disclaimer; Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. G&A Heritage and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

SIGNED OFF BY: STEPHAN GAIGHER



MANAGEMENT SUMMARY

Site name and location: Vulcania Cemetery, Brakpan, Ekurhuleni.

Municipal Area: Ekurhuleni Metropolitan Municipality.

Developer: Memorial Park Management Services (Pty) Ltd

Consultant: G&A Heritage, PO Box 522, Louis Trichardt, 0920, South Africa. 38A Vorster Str. Louis Trichardt, 0920

Date of Report: 04 November 2013

Memorial Park Management Services (Pty) Ltd is proposing the development of a new cemetery in Vulcania south of Brakpan in the Ekurhuleni Metropolitan Municipality. The proposed cemetery will consist of the following;

- approximately 10 000 graves
- entrance gate
- admin building with maintenance store
- Public ablution facilities
- Internal roads

Findings;

No sites of elevated heritage significance could be positively identified.

Recommendations;

Site specific recommendations are given in the appropriate sections.

Fatal Flaws;

No fatal flaws were identified.

TABLE OF CONTENTS

Introduction.....	6
Project Description.....	9
Project Location	9
Methodology.....	10
Evaluating Heritage Impacts	10
Assessing Visual Impact.....	10
Previous Studies in the Area	11
Regional Cultural Context	12
Paleontology.....	12
Stone Age.....	12
Iron Age	12
The Historic Era.....	13
Cultural Landscape	13
Assessment of Impacts	15
Activities that will affect the heritage environment.....	16
Post-Contact Heritage	16
Impact Statement.....	16
Paleontological sites	16
Archeological Sites.....	16
Built Environment.....	16
Cultural Landscape	18
Impact Assessment Matrix.....	20
Resource Management Recommendations.....	20
Conclusion.....	21
References Cited	22

TABLE OF FIGURES

Figure 1. Location on 1:50 000 map set.....	9
Figure 2. Aerial view of the study area.....	10
Figure 3. General landscape type at site	13
Figure 4. Foundation remains and dilapidated structures on site	17
Figure 5. Built Environment Sites	17
Figure 6. ZCC Gathering Site.....	19
Figure 7. ZCC Gathering site	20

HERITAGE IMPACT REPORT

BASIC HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED VULCANIA CEMETERY.

INTRODUCTION

Legislation and methodology

G&A Heritage was appointed by Galago Environmental cc to undertake a heritage impact assessment for the proposed Vulcania Cemetery Development located on the Remainder of the farm Vulvania 279 IR. Section 38(1) of the South African Heritage Resources Act (25 of 1999) requires that a heritage study is undertaken for:

- (a) construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- (b) construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development, or other activity which will change the character of an area of land, or water –
 - (1) exceeding 10 000 m² in extent;
 - (2) involving three or more existing erven or subdivisions thereof; or
 - (3) involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
- (d) the costs of which will exceed a sum set in terms of regulations; or
- (e) any other category of development provided for in regulations.

While the above describes the parameters of developments that fall under this Act., Section 38 (8) of the NHRA is applicable to this development. This section states that;

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

In regards to a development such as this that falls under Section 38 (8) of the NHRA, the requirements of Section 38 (3) applies to the subsequent reporting, stating that;

- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:
 - (a) The identification and mapping of all heritage resources in the area affected;
 - (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;
 - (c) an assessment of the impact of the development on such heritage resources;
 - (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

A heritage impact assessment is not limited to archaeological artefacts, historical buildings and graves. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals. A heritage resource is defined as any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes the following:

- (a) places, buildings, structures and equipment;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including –
 - (1) ancestral graves,
 - (2) royal graves and graves of traditional leaders,
 - (3) graves of victims of conflict (iv) graves of important individuals,
 - (4) historical graves and cemeteries older than 60 years, and
 - (5) other human remains which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);
- (h) movable objects, including ;
 - (1) objects recovered from the soil or waters of South Africa including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (2) ethnographic art and objects;
 - (3) military objects;
 - (4) objects of decorative art;
 - (5) objects of fine art;
 - (6) objects of scientific or technological interest;
 - (7) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
 - (8) any other prescribed categories, but excluding any object made by a living person;
- (i) battlefields;
- (j) traditional building techniques.

A 'place' is defined as:

- (a) A site, area or region;
- (b) A building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);
- (c) a group of buildings or other structures (which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures); and
- (d) an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.

'Structures' means any building, works, device, or other facility made by people and which is fixed to land and any fixtures, fittings and equipment associated therewith older than 60 years.

'Archaeological' means:

- (a) material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;

- (b) rock art, being a form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and is older than 100 years including any area within 10 m of such representation; and
- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

'Paleontological' means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

'Grave' means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. The South African Heritage Resources Agency (SAHRA) will only issue a permit for the alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned.

The removal of graves is subject to the following procedures as outlined by the SAHRA:

- Notification of the impending removals (using English, Afrikaans and local language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from the SAHRA;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and re-interment (sometimes by a registered undertaker, in a formally proclaimed cemetery);
- Observation of rituals or ceremonies required by the families.

The limitations and assumptions associated with this study are as follows;

- Sites were evaluated by means of description of the cultural landscape and analysis of written sources and available databases.
- It was assumed that layout as provided by Galago Environmental was correct.
- We assumed that the public participation process performed as part of the Environmental Impact Assessment process will be sufficiently encompassing not to be repeated in the Heritage Impact Assessment.

Table 1. Impacts on the NHRA Sections

Act	Section	Description	Possible Impact	Action
National Heritage Resources Act (NHRA)	34	Preservation of buildings older than 60 years	No impact	None
	35	Archaeological, paleontological and meteor sites	No	None
	36	Graves and burial sites	Possible Impact	Management plan
	37	Protection of public monuments	No impact	None
	38	Does activity trigger a HIA?	Yes	HIA

Table 2. NHRA Triggers

Action Trigger	Yes/No	Description
Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m	No	N/A

in length.		
Construction of a bridge or similar structure exceeding 50m in length.	No	N/A
Development exceeding 5000 m ²	Yes	Vulcania Cemetery
Development involving more than 3 erven or sub divisions	No	N/A
Development involving more than 3 erven or sub divisions that have been consolidated in the past 5 years	No	N/A
Re-zoning of site exceeding 10 000 m ²	Yes	Possible rezoning
Any other development category, public open space, squares, parks or recreational grounds	No	N/A

PROJECT DESCRIPTION

The proposed 7ha Vulcania Cemetery will consist of;

- approximately 10 000 graves
- entrance gate
- admin building with maintenance store
- Public ablution facilities
- Internal roads

PROJECT LOCATION

The proposed Vulcania Cemetery is located on the Remainder of the Farm Vulcania 279 IR south of Brakpan in the Ekurhuleni Municipality of Gauteng Province. The proposed site is on the corner of 12th Avenue and Vlakfontein Road. The site is around 7ha in size.



Figure 1. Location on 1:50 000 map set

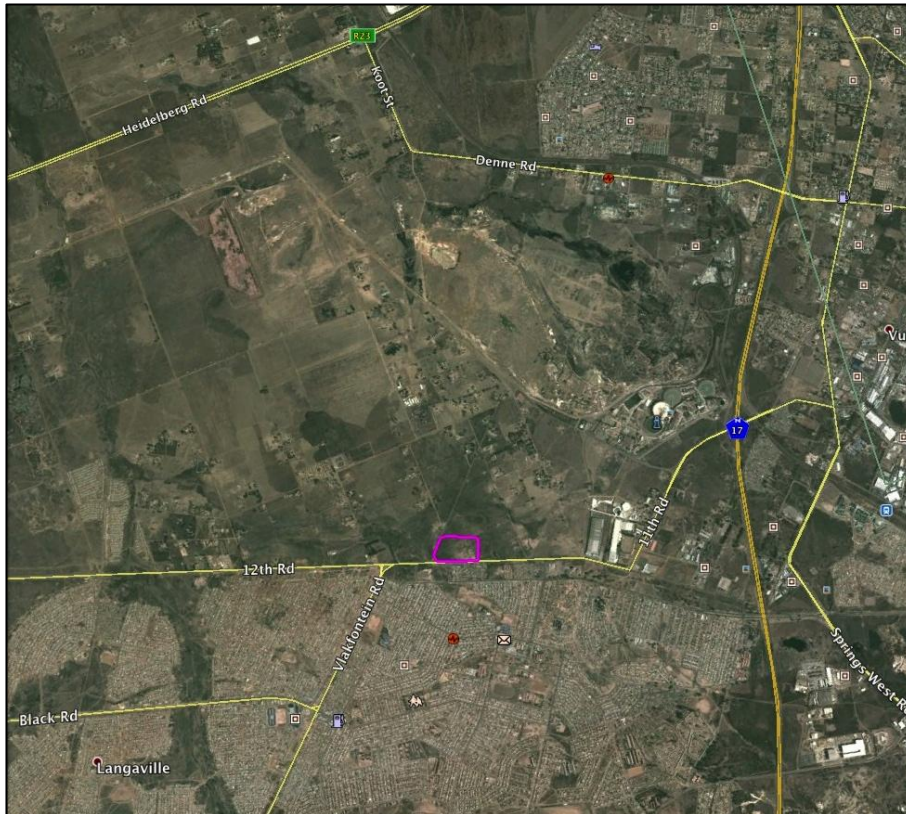


Figure 2. Aerial view of the study area

METHODOLOGY

This study defines the heritage component of the Environmental Impact Assessment process. It is described as a first phase Heritage Impact Assessment (HIA). This report attempts to evaluate both the accumulated heritage knowledge of the area as well as information derived from direct physical observations.

EVALUATING HERITAGE IMPACTS

A combination of document research as well as the determination of the geographic suitability of areas and the evaluation of aerial photographs determined which areas could and should be accessed.

After plotting of the site on GPS the areas were accessed using suitable combinations of vehicle access and access by foot.

Sites were documented by digital photography and geo-located with GPS readings using the WGS 84 datum.

Further techniques included interviews with local inhabitants, visiting local museums and information centers and discussions with local experts. All this information was combined with information from an extensive literature study as well as the result of archival studies based on SAHRA provincial databases.

Geological maps guided investigations into the paleontological riches of the area.

ASSESSING VISUAL IMPACT

Visual impacts of developments result when sites that are culturally celebrated are visually affected by a development. The exact parameters for the determination of visual impacts have not yet been rigidly defined and are still mostly open to interpretation. CNdV and DEAP (2006) have developed some guidelines for the management of the visual impacts of wind turbines in the Western Cape, although these have not yet been formalized. In these guidelines they recommend a buffer zone of 1km around significant heritage sites to minimize the visual impact.

PREVIOUS STUDIES IN THE AREA

Birkholtz, P. 2007. Archival And Historical Desktop Study To Determine Whether Any Black Concentration Camps Were Situated Within Certain Portions Of The Farm Witpoortje 117-Ir

Vd Walt, J 2007. Residential development on Portion 58 and remaining extend of Portion 46 of the farm Witpoortjie 117-IR, Ekurhuleni.

Matakoma Heritage Consultants (2006), Heritage Scoping Assessment for The Top Star Dump Mining Project – Crown Gold Recoveries Reference: Top Star Dump – 001; Compiled By: Wouter Fourie & Jaco Van der Walt, 22 May 2006

Letter of Recommendation of Exemption for the Proposed Crown Gold Recoveries (Pty) Ltd Pipeline Project. DWA, J Nel. 20/10/2010

Huffman T.N, Herbert. 1994. A new perspectives on Eastern Bantu. .Asania XXIX-XXX, 1994-1995:27-36.

V/d Walt, J. 2008 Cultural Heritage Impact Assessment PORTIONS 18, 65, 83, 100, 101, 103 AND 194 OF THE FARM RIETFONTEIN 115 IR, PORTION 23 AND REMAINING EXTENT OF PORTION 22 OF THE FARM WELTEVREDEN 118 IR. BENONI, GAUTENG PROVINCE. Wits Enterprise (Pty) Ltd.

V/D Walt 2008, J. MODDERFONTEINT PORTION 30 – ARCHAEOLOGICAL IMPACT ASSESSMENT.

Coetzee FP, Cultural Heritage Survey of Portion 1 of Portion 228 (a Portion of 213) and Portion 63 of the Farm Geduld 123 IR, Gauteng Province. 2008.

HERITAGE INDICATORS WITHIN THE RECEIVING ENVIRONMENTS

REGIONAL CULTURAL CONTEXT

PALAEONTOLOGY

The paleontology of Western Gauteng is well researched in areas. The discovery of the Sterkfontein skeletons put this area in the forefront of paleontology worldwide. The rule of “absence of evidence is not evidence of absence” should be applied to this area. Taken the rich paleontology of Western Gauteng it is conceivable that similar finds could be made in this area.

STONE AGE

No substantial number of Stone Age sites from any period of the Stone Age is known to exist in this area – primarily as a result of a lack of research and general ignorance amongst the layman in recognizing stone tools that often may occur on the surface of the earth. However, it is possible that the first humans in the Randburg area may have been preceded by *Homo erectus*, who roamed large parts of the world during the Acheulian period of the Early Stone Age, 500 000 years ago. The forbear of *H. erectus*, *Australopithecus*, considered to be the earliest ancestor of humans, lived in the Blaauwbank Valley around Krugersdorp (today part of the Cradle of Humankind – a World Heritage Site) several million years ago.

During the Middle Stone Age, 200 000 years ago, modern man or *Homo sapiens* emerged, manufacturing a wider range of tools, with technologies more advanced than those from earlier periods. This enabled skilled hunter-gatherer bands to adapt to different environments. From this time onwards, rock shelters and caves were used for occupation and reoccupation over very long periods of time. Two Middle Stone Age sites at the Withoek Spruit (Brakpan) were researched 17 years ago, but no information on this discovery has been published.

The Late Stone Age, considered to have started some 20 000 years ago, is associated with the predecessors of the San and Khoi Khoi. San hunter-gatherer bands with their small (microlithic) stone tools may have lived in Eastern Gauteng, as a magnificent engraving site near Duncanville attests to their presence in Vereeniging, south of, but close to Ekurhuleni. Stone Age hunter-gatherers lived well into the 19th century in some places in SA, but may not have been present in Brakpan when the first European colonists crossed the Vaal River during the early part of the 19th century. Stone Age sites may occur all over the area where an unknown number may have been obliterated by mining activities, urbanization, industrialization, agriculture and other development activities during the past decades.

IRON AGE

A considerable number of Late Iron Age, stone walled sites, dating from the 18th and the 19th centuries (some of which may have been occupied as early as the 16th century), occur along and on top of the rocky ridges of the eastern part of the Klipriviersberg towards Alberton. These settlements and features in these sites, such as huts, were built with dry stone, reed and clay available from the mountain and the Klip River (Mason 1968, 1986).

The Late Iron Age sites within Ekurhuleni’s south-eastern border are a ‘spill-over’ from a larger concentration which are located further towards the west, in the Witwatersrand, while large concentrations of stone walled sites are also located directly to the south of Johannesburg, in the mountainous area around the Suikerbosrand in Heidelberg. The stone walled settlements are concentrated in clusters of sites and sometimes are dispersed over large areas making them vulnerable to developments of various kinds. A site consists of a circular or elliptical outer wall that is composed of a number of scalloped walls facing inwards towards one or more enclosures. Whilst the outer scalloped walls served as dwelling quarters for various family groups, cattle, sheep and goat were stock in the centrally located enclosures. Huts with clay walls and floors were built inside the dwelling units. Pottery

and metal items are common on the sites. However, iron and copper were not produced locally on these sites.

THE HISTORIC ERA

Brakpan is part of the mining and industrial complex of the East Rand area within the Witwatersrand. The area, first named in 1886, grew rapidly after the discovery of coal (in 1888) and gold (in 1905). Brakpan officially became a town in 1919, and it now has wide, tree-lined streets and residential suburbs separated from the diversified industrial areas. Since 1978, the recycling of the mine tailings at Brakpan (the largest such dump in the Witwatersrand) has resulted in the recovery of significant residual quantities of gold and uranium. Pop. (2001) 62,115 (<http://www.britannica.com/EBchecked/topic/77462/Brakpan>).

CULTURAL LANDSCAPE

The main cultural landscape type associated with this area is one of heavy industrial and mining activities. The mine dumps visible from the site adds to the atmosphere of mining and exploration. This cultural identity has grown to such an extent that it overshadows any previous cultural identity that the area might have had in the past.



Figure 3. General landscape type at site

MEASURING AND EVALUATING THE CULTURAL SENSITIVITY OF THE STUDY AREA

In 2003 the South African Heritage Resource Agency (SAHRA) compiled the following guidelines to evaluate the cultural significance of individual heritage resources;

TYPE OF RESOURCE;

- Place
- Archaeological Site
- Structure
- Grave
- Paleontological Feature
- Geological Feature

TYPE OF SIGNIFICANCE

1. HISTORIC VALUE

It is important in the community, or pattern of history

- o Important in the evolution of cultural landscapes and settlement patterns
- o Important in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, province, region or locality.
- o Important for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation, province, region or community.
- o Important as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period.

It has strong or special association with the life or work of a person, group or organisation of importance in history;

- o Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, province, region or community.

It has significance relating to the history of slavery

- o Importance for a direct link to the history of slavery in South Africa.

2. AESTHETIC VALUE

It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

- o Important to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
- o Importance for its creative, design or artistic excellence, innovation or achievement.
- o Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
- o In the case of an historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. SCIENTIFIC VALUE

It has potential to yield information that will contribute to an understanding of natural or cultural heritage

- o Importance for information contributing to a wider understanding of natural or cultural

history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.

- Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
- Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
- Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the nation, Province, region or locality.
- It is important in demonstrating a high degree of creative or technical achievement at a particular period
- Importance for its technical innovation or achievement.

4. SOCIAL VALUE

- It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
- Importance in contributing to a community’s sense of place.

DEGREES OF SIGNIFICANCE

1. RARITY

It possesses uncommon, rare or endangered aspects of natural or cultural heritage.

- Importance for rare, endangered or uncommon structures, landscapes or phenomena.

2. REPRESENTIVITY

- It is important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects.
- Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class.
- Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, Province, region or locality.

Spheres of Significance	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific Community			

What other similar sites may be compared to this site?

ASSESSMENT OF IMPACTS

ACTIVITIES THAT WILL AFFECT THE HERITAGE ENVIRONMENT

POST-CONTACT HERITAGE

Nature of Impacts: The development of the area can impact on possible unmarked or subterranean gravesites within the study area.

Extent of Impacts: Localized damage to the site.

Nature of Impact: Possible post-contact site could be uncovered locally by excavation activities		
	Without Mitigation	With Mitigation
Extent	Local	Local
Duration	Long term	Long term
Magnitude	Low	Low
Probability	Probable	Probable
Significance	Low	Low
Status	Negative	Negative
Reversibility	Irreversible	Irreversible
Irreplaceable loss of resource	Yes	No
Can impacts be mitigated	Yes	Yes
Mitigation	Monitoring of possible grave sites	
Cumulative impacts	None	
Residual impacts	Negativity locally towards the development	

IMPACT STATEMENT

PALEONTOLOGICAL SITES

No paleontological sites of high value could be identified. It is not anticipated that bedrock will be affected. If the planning of the project indicates that bedrock will be affected a specialist palaeontological study will be required.

Mitigation

No mitigation is recommended.

ARCHEOLOGICAL SITES

No sites were identified.

Mitigation

No mitigation is recommended.

BUILT ENVIRONMENT

Some dilapidated structures as well as some foundation remains were noted on the site, however these were of a recent nature and have no heritage value.



Figure 4. Foundation remains and dilapidated structures on site

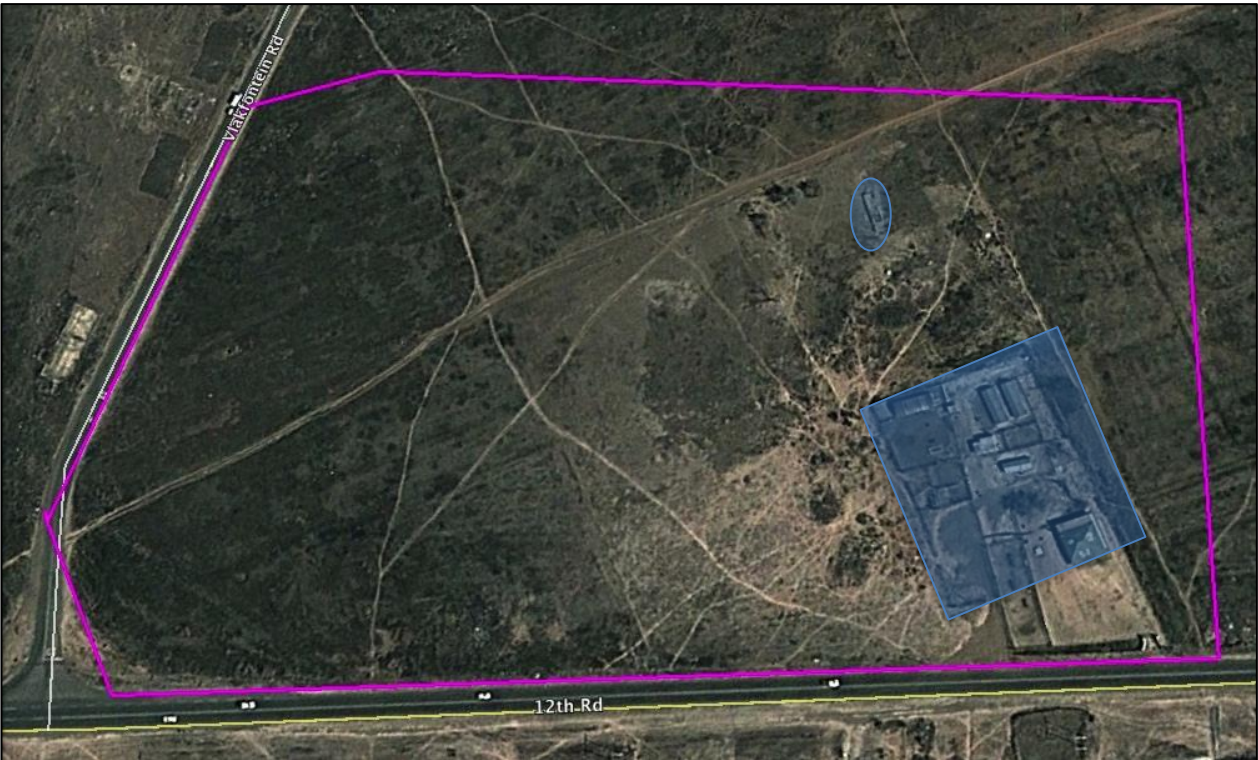


Figure 5. Built Environment Sites

Mitigation

No mitigation is necessary.

CULTURAL LANDSCAPE

The proposed development will link with the existing cultural landscape type.

Landscape Type	Description	Occurrence still possible?	Identified on site?
1 Paleontological	Mostly fossil remains. Remains include microbial fossils such as found in Baberton Greenstones	Yes, sub-surface	No
2 Archaeological	Evidence of human occupation associated with the following phases – Early-, Middle-, Late Stone Age, Early-, Late Iron Age, Pre-Contact Sites, Post-Contact Sites	No	No
3 Historic Built Environment	<ul style="list-style-type: none"> - Historical townscapes/streetscapes - Historical structures; i.e. older than 60 years - Formal public spaces - Formally declared urban conservation areas - Places associated with social identity/displacement 	No	No
4 Historic Farmland	<p>These possess distinctive patterns of settlement and historical features such as:</p> <ul style="list-style-type: none"> - Historical farm yards - Historical farm workers villages/settlements - Irrigation furrows - Tree alignments and groupings - Historical routes and pathways - Distinctive types of planting - Distinctive architecture of cultivation e.g. planting blocks, trellising, terracing, ornamental planting. 	No	No
5 Historic rural town	<ul style="list-style-type: none"> - Historic mission settlements - Historic townscapes 	No	No
6 Pristine natural landscape	<ul style="list-style-type: none"> - Historical patterns of access to a natural amenity - Formally proclaimed nature reserves - Evidence of pre-colonial occupation - Scenic resources, e.g. view corridors, viewing sites, visual edges, visual linkages - Pre-colonial or historical burial sites - Geological sites of cultural significance. 	No	No
7 Relic Landscape	<ul style="list-style-type: none"> - Past farming settlements - Past industrial sites - Places of isolation related to attitudes to medical treatment - Battle sites - Sites of displacement, 	No	No
8 Burial grounds and grave sites	<ul style="list-style-type: none"> - Pre-colonial burials (marked or unmarked, known or unknown) - Historical graves (marked or unmarked, known or unknown) - Graves of victims of conflict - Human remains (older than 100 years) - Associated burial goods (older than 100 years) - Burial architecture (older than 60 years) 	Yes	Possible sub-surface sites
9 Associated Landscapes	<ul style="list-style-type: none"> - Sites associated with living heritage e.g. initiation sites, harvesting of natural resources for traditional medicinal purposes 	Yes	ZCC Gathering Site

	<ul style="list-style-type: none"> - Sites associated with displacement & contestation - Sites of political conflict/struggle - Sites associated with an historic event/person - Sites associated with public memory 		
10 Historical Farmyard	<ul style="list-style-type: none"> - Setting of the yard and its context - Composition of structures - Historical/architectural value of individual structures - Tree alignments - Views to and from - Axial relationships - System of enclosure, e.g. defining walls - Systems of water reticulation and irrigation, e.g. furrows - Sites associated with slavery and farm labour - Colonial period archaeology 	No	No
11 Historic institutions	<ul style="list-style-type: none"> - Historical prisons - Hospital sites - Historical school/reformatory sites - Military bases 	No	No
12 Scenic visual	<ul style="list-style-type: none"> - Scenic routes 	No	No
13 Amenity landscape	<ul style="list-style-type: none"> - View sheds - View points - Views to and from - Gateway conditions - Distinctive representative landscape conditions - Scenic corridors 	No	No

Mitigation

It is recommended that the development designs take into account the positive and negative characteristics of the existing cultural landscape type and that they endeavor to promote the positive aspects while at the same time mitigating the negative aspects.

A circle of whitewashed stones as well as a stone cairn of whitewashed stones demarcates an area underneath some trees. This is a gathering site for Zionist Christian Church (ZCC) members. Although this is not a formally declared church or religious structure it is important that the site be handled with sensitivity and that an alternate site be provided for these people.

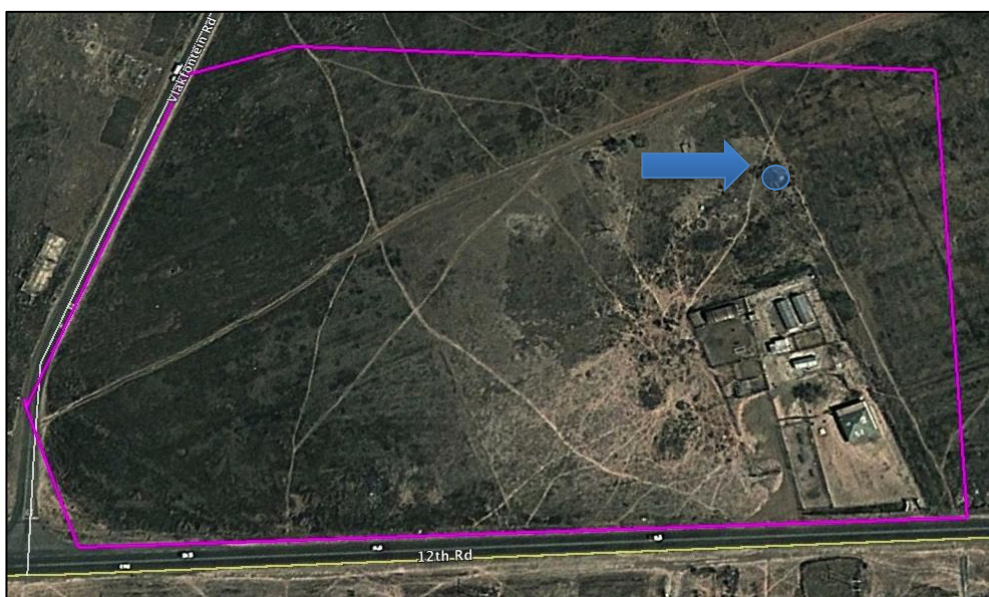


Figure 6. ZCC Gathering Site



Figure 7. ZCC Gathering site

IMPACT ASSESSMENT MATRIX

NHRA Class	Identification		Significance	Impact	Recommendations
	Site	GPS			
Buildings and structures	1	26° 17' 50,1" S 28° 22' 49,9" E	Low	Severe	No mitigation as structures are not historic
Graves and Burial Grounds	2	26° 17' 50,1" S 28° 22' 49,9" E	Medium	Severe	Provide alternate meeting site for ZCC members

RESOURCE MANAGEMENT RECOMMENDATIONS

Although unlikely, sub-surface remains of heritage sites could still be encountered during the construction activities associated with the project. Such sites would offer no surface indication of their presence due to the high state of alterations in some areas as well as heavy plant cover in other areas. The following indicators of unmarked sub-surface sites could be encountered;

- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate)
- Bone concentrations, either animal or human
- Ceramic fragments such as pottery shards either historic or pre-contact
- Stone concentrations of any formal nature

Although no sites of heritage significance were identified within the proposed study area, the following recommendations are given should any sub-surface remains of heritage sites be identified as indicated above;

- All operators of excavation equipment should be made aware of the possibility of the occurrence of sub-surface heritage features and the following procedures should they be encountered.
- All construction in the immediate vicinity (50m radius of the site should cease).
- The heritage practitioner should be informed as soon as possible.
- In the event of obvious human remains the SAPS should be notified.
- Mitigative measures (such as refilling etc.) should not be attempted.
- The area in a 50m radius of the find should be cordoned off with hazard tape.
- Public access should be limited.
- The area should be placed under guard.
- No media statements should be released until such time as the heritage practitioner has had sufficient time to analyze the finds.

CONCLUSION

The area investigated produced no evidence of sites with significant heritage value. In one area some dilapidated buildings consisting mainly of corrugated iron sheets were found. Squatters are currently using these. In one area white stones and a stone cairn demarcate a gathering site for ZCC members. This site is obviously still being used by the ZCC and it is recommended that an alternate gathering site be allocated.

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