

CULTURAL HERITAGE IMPACT ASSESSMENT OF THE PROPOSED UPGRADING OF THE CLARENS WATER TREATMENT WORKS, FREE STATE PROVINCE.



ACTIVE HERITAGE CC.

FOR: E & D Consulting Services

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TABLE OF CONTENTS

1	BACKGROUND INFORMATION ON THE PROJECT	1
2	BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA	5
2.1.1	THE EARLY STONE AGE	5
3	BACKGROUND INFORMATION OF THE SURVEY	12
3.1	Methodology	12
3.2	Restrictions encountered during the survey	13
3.2.1	<i>Visibility</i>	13
3.2.2	<i>Disturbance</i>	13
3.3	Details of equipment used in the survey.....	13
4	DESCRIPTION OF SITES AND MATERIAL OBSERVED.....	13
4.1	Locational data	13
4.2	Description of the general area surveyed.....	13
4.3	Dating the findings	14
4.4	Description and distribution of heritage material found.....	14
5	STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)	14
5.1	Field Rating.....	14
6	RECOMMENDATIONS	15
7	MAPS AND PHOTOGRAPHS	16
9	REFERENCES	19

LIST OF TABLES

Table 1. Background information.....	4
Table 2. Field rating and recommended grading of sites (SAHRA 2005)	14

LIST OF ABBREVIATIONS AND ACRONYMS

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1836 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000)
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

EXECUTIVE SUMMARY

A cultural heritage survey of the proposed upgrading of the Clarens Water Treatment Works, Dihlabeng Local Municipality, located no heritage sites. There is no archaeological reason why the proposed upgrading may not proceed as planned. However, attention is drawn to the South African National Heritage Resources Act, 1999 (Act No. 25 of 1999) which requires that operations that expose archaeological or historical remains should cease immediately, pending evaluation by the provincial heritage agency.

1 BACKGROUND INFORMATION ON THE PROJECT

The consultant was approached by E & D Consulting Services to conduct a heritage impact assessment (excluding palaeontology) of the proposed upgrading of the Clarens Water Treatment Works, Dihlabeng Local Municipality. E & D Consulting Services has been appointed to conduct the Basis Assessment Process for the proposed upgrade

According to the National Heritage Resources Act, 1999 (NHRA) (Act No. 25 of 1999), the heritage resources of South Africa include:

- a. places, buildings, structures and equipment of cultural significance;
- 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 of cultural significance;
- e. geological sites of scientific or cultural importance;
- f. archaeological and palaeontological sites;
- g. graves and burial grounds, including-
 - i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict;
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- h. sites of significance relating to the history of slavery in South Africa;
- i. movable objects, including-

- i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
- ii. objects to which oral traditions are attached or which are associated with living heritage;
- iii. ethnographic art and objects;
- iv. military objects;
- v. objects of decorative or fine art;
- vi. objects of scientific or technological interest; and
- vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

In terms of section 3 (3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

- “a. its importance in the community, or pattern of South Africa's history;
- b. its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- c. its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- d. its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- e. its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- f. its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- g. its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- h. its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- i. sites of significance relating the history of slavery in South Africa.”

The NHRA regulations of 2000 refer for the most part to the processes allowing for permits to be issued for the alteration, destruction or modification of heritage sites and features. These include the following:

- Protected areas
- Burial grounds and graves
- Wrecks
- Exportation of heritage objects
- Reproduction of national heritage sites
- Archaeological and palaeontological sites
- National heritage sites, provincial heritage sites, provisionally protected place, structures older than 60 years

This study aims to identify and assess the significance of any heritage and archaeological resources occurring on the site. Based on the significance, the impact of the development on the heritage resources would be determined. Then appropriate actions to reduce the impact on the heritage resources would be put forward. In terms of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

- a. its importance in the community, or pattern of South Africa's history;
- b. its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- c. its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- d. its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
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- f. its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- g. its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- h. its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- i. sites of significance relating to the history of slavery in South Africa.

Table 1. Background information

Consultants:	Frans Prins (Active Heritage cc) for E & D Consulting Services
Type of development:	The bulk of the works is the upgrading and extension of the Clarens Water treatment Works. A new water pipeline is also planned from the Townlands Dam to the Water Treatment Works. In addition, the existing abstraction weir needs some maintenance work. The existing asbestos pipeline from the weir to the Townlands Dam also needs to be upgraded (i.e. a new PCV pipe laid and the old one decommissioned).
Rezoning or subdivision:	rezoning
Terms of reference	To carry out a Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

1.1. Details of the area surveyed:

The project area is situated approximately 1km from the Clarens CBD, and can be accessed via the R711 (Fig 1). The GPS coordinates of the footprint is as follows:

28° 31' 31.43" S 28° 25' 46.63". The footprint is situated in the foothills of the Maloti Drakensberg Mountains on the outskirts of the small village of Clarens. The R711 forms its western border. It is bordered onto by commercial farms in the north, west, and south (Fig 2). The footprint consists of the Clarens Water Treatment Works (Fig 3) and associated Sludge Pits (Fig 4). A pipeline connects the Water Treatment Works with the Townlands Dam (Figs 5 & 6). This dam is also used for recreational purposes, mostly trout fishing, by residents and tourists to the area. The Caledon Weir Abstraction occurs another 500m downstream (Fig 7).

2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

The greater Maloti Drakensberg area, including Clarens, is well endowed with cultural heritage, including various wilderness areas within and outside the formal protected area network. Although most literature refers to this heritage mainly in terms of San rock art, the region also contains other categories of cultural heritage features representative of various cultures and time-periods. The cultural heritage of the Maloti Drakensberg is diverse and highly fragile. Cultural heritage, unlike natural heritage, is non-renewable and irreplaceable. Once damaged, it is gone forever. San rock paintings and associated Later Stone Age sites, as well as the palaeontology of the area, are unique and have global significance. The remaining categories, however, certainly have national, provincial, and regional significance. The area has had several different cultural groups associated with it, from the San to the southern Sotho, and, more recently, the Griqua and Anglo-Boer descendants. Each of these groups has its own unique cultural expressions and has related in various ways to the others. These differences are found in the building styles of homes, their way of life as they interact with their environment, traditional dress, and so on. In addition, there are a number of living heritage values associated with all of these groups, many of which are unknown or poorly recorded. The following section is a more detailed description of the various cultural heritage features.

2.1.1 The Early Stone Age

The occurrence of Early Stone Age tools such as hand axes in areas below the 1 800 m contour suggests that the first inhabitants of the area predated modern humans by at least 800 000 years. Sites belonging to this period in the Maloti Drakensberg are mostly characterised by a few surface scatters and individual stone tools – usually in the close vicinity of water. They were most probably manufactured by *Homo erectus*, a predecessor of modern humans.

2.1.2 The Middle Stone Age

Anatomically modern people (*Homo sapiens sapiens*) with a very different economic strategy and more sophisticated stone tool kits moved into the area about 200 000 years ago. Archaeological assemblages left behind by these people have been termed Middle Stone Age. Not only were these societies more effective hunters than their predecessors but Middle Stone Age sites elsewhere in southern Africa also provide convincing evidence for some of the earliest symbolic behaviour in the world. It was Middle Stone Age people from southern and eastern Africa who left the continent

roughly between 80 000 – 60 000 years ago to populate the rest of the world. Middle Stone Age sites in the Drakensberg region occur in both Lesotho and South Africa. Sites occur as surface scatters as well as deep cave deposits. Prime archaeological deposits occur in the Free State sections of the region including the greater Clarens area (Mitchell 2002). However, none of the deposits near Clarens have been systematically excavated in the past.

2.1.3. The Later Stone Age

The stone tool assemblages belonging to the immediate ancestors of the San or Bushmen have been termed Later Stone Age. Later Stone Age tools are generally much smaller but also more diversified than the earlier tool kits. It was during this period that the bow and arrow was used extensively, and societies exploited their environments distinctly more intensively and effectively. Literally hundreds of Later Stone Age sites prevail in the Maloti Drakensberg region. In addition, most of the rock art in the region was created by the San. The earliest evidence for Later Stone Age occupation of the Maloti Drakensberg comes from Sehonghong Cave in south eastern Lesotho and from Strathalan Cave in the Eastern Cape section of the region. Here a specific Later Stone Age period called the Robberg Industry has been dated to approximately 20 000 years ago. In contrast, evidence from Good Hope shelter 1 near the bottom of Sani Pass suggests that the earliest archaeological evidence for San people in the KwaZulu-Natal portion of the Drakensberg dates back to approximately 8 000 years ago. Whereas most parts of the Maloti Drakensberg were only seasonally occupied by San hunter gatherers for the larger part of the last 20 000 years, the situation started to change during the later part of the Holocene around 5 000 years ago. This was compounded by the arrival of immigrant black farmers in the region soon after 1600 AD and European colonialism around 1834 AD (Wright & Mazel 2007). During the historical period, the Maloti Drakensberg and adjacent mountainous areas became the last stronghold for various southern San groups such as the Baroa, //Xegwi, !Ga!ne, //Kx'au, and //Ku//ke. Their Later Stone Age way of life finally came to an end during the late 19th century. San descendants still live in the area but for all practical purposes have assimilated with their more powerful neighbours. Many place names within the region still retained their original San pronunciations such as the Inxu, Sehonghong, Qomoqomong and Qhoasing rivers, and the Qeme, Qhuquhu, Qhalasi, and Qholaqhoe mountains. Approximately 1 300 Later Stone Age sites are known within the South African side of the Maloti Drakensberg.

2.1.4. Rock Paintings

The Maloti Drakensberg region is particularly well known for the occurrence of some of the finest and most complex prehistoric rock paintings in the world. Depictions of humans dominate, although finely executed animals such as eland and rhebuck are common. Some of the art is executed in various colours and in detailed precision that almost renders it a three dimensional aspect. Most researchers support the theory developed by Professor David Lewis-Williams and his colleagues that the figures represent trance induced visions during San religious rites (Lewis-Williams 2003). According to some researchers, the celebrated Rosetta Panel at Game Pass Shelter, KwaZulu-Natal, holds the key to our understanding of all San rock art in the sub-Saharan region of Africa. However, this interpretation is not supported by all rock art researchers. Notable deviations from this approach have been developed by Anne Solomon, and more recently by Thomas Dowson. The Maloti Drakensberg is also one of the areas with the highest density of prehistoric rock art in the world and certainly contains the highest concentration of prehistoric art south of the Sahara in Africa. Although the scientific dating of these paintings is still under researched, recent research suggests that the oldest paintings may date to approximately 4000 years ago (Wright & Mazel 2007). This is much older than previously thought. The chronological uniqueness of the art, however, is not so much in its antiquity as in the fact that the Maloti Drakensberg was the last area in Africa south of the Zambezi River where the San rock art tradition was still actively practised. Paintings at two sites in the southern portion of the region were created as recently as 1920 (Prins 2009). Various rock art sites occur in the greater Clarens Region (Woodhouse 1995). Perhaps the best known site is Schaapplaats also situated on the outskirts of Clarens (ibid). However, no rock art sites occur in the study area. The rock paintings from the greater Clarens area are similar in style and context to the better known art of the Ukhahlamba Drakensberg World Heritage Site.

2.1.5. Iron Age Sites

Around 2 000 years ago the southern African demographic landscape was transformed with the arrival of the first Bantu-speaking agriculturists in the sub-region. These subsistence farmers lived for the most part in the lower altitude, wooded areas of the eastern seaboard. Around 1250 AD certain agriculturists started occupying the higher altitude, grassland areas. Sites belonging to this period in KwaZulu-Natal are referred to as Moor Park settlements and they typically occupy hill tops with a low stone walling effect. Although none occur within the designated Maloti-Drakensberg project area,

they can be found at the fringes, at an altitude of approximately 1 200-1 400 m. By 1600 AD, groups such as the amaZizi reached the foothills of the northern Drakensberg near Winterton (Wright and Mazel 2007). Various splinter groups of the amaZizi left KwaZulu Natal and also settled in parts of Lesotho where, over time, they adopted a Sotho identity. The baPhuti of south eastern Lesotho are perhaps the best known of these early immigrants. By the early 1700s various other Sotho and Nguni-speaking groups moved into the area and established chieftaincies in those areas below the 1 800 m contour. Impressive Iron Age sites belonging to this period and built in typical Sotho-style occur near Harrismith, Phuthaditjhaba and close to Clarens in the Eastern Free State. Nguni-style sites of this period have also been found in KwaZulu-Natal and the Eastern Cape parts of the Maloti Drakensberg. The expansion of the Zulu kingdom around 1818 had a major impact on Iron Age settlement in the region. Various chieftaincies were attacked, and their routed remnants typically traversed the Maloti Drakensberg region in search of better settlement elsewhere. Bandits often hid out in the mountains, and a number allegedly practised cannibalism. Cannibalism was also known to occur on the outskirts of Clarens at sites near the present St Fort and parts of the Qwa Qwa Nature Reserve. Perhaps the most significant development during this period was the founding of the Southern Sotho nation under King Moshoeshoe I. Various sites in Lesotho belong to this period – some of them, like Thaba Bosiu, are typically mountain strongholds. Almost 2 000 Iron-Age sites have been identified in the Maloti Drakensberg region, and most occur in altitudes lower than 1 800 m contour. In fact, there is evidence for Later Iron Age occupation in the foothills of the northern Maloti Drakensberg, in the near vicinity of Clarens, from about 1400 AD (Huffman 2007).

2.1.6. The Historical period

The historical period spans the era of colonialism that started around 1830 AD when the first missionaries and Dutch immigrants arrived from the Cape Colony in the Maloti Drakensberg region. Sites associated with Voortrekker settlement of the area occur in the eastern Free State, including the greater Clarens area, and the northern portion of KwaZulu-Natal near Winterton and Bergville. For the most part, these were the places where laagers were formed (with very low archaeological visibility) and old farmsteads with associated grave yards. A particular site worth mentioning is Kerkenberg near Oliviershoek Pass, where Debora Retief painted the initials of her father on a rock before the trekkers descended into KwaZulu Natal. In Lesotho, the rebellion by Chief Moorosi and the resultant action by the Cape Colony government at the southern tip of

the country left footprints of forts and associated graves at Moyeni Camp, Fort Hartley, Cutting Camp, and Mount Moorosi. The most important structure relating to the history of Bushman raids is most probably Fort Nottingham, in KwaZulu-Natal, which was built around 1852. Various historical mission stations founded in the mid to late 1800s such as those at Morija and St James in Lesotho and Emmaus, Reichenau, and Mariazell in South Africa, are still in active use. The Ongeluksnek Pass in the Eastern Cape is intimately associated with the epic trek of the Griqua people in 1861, led by Adam Kok. The area associated with the first native uprising against the British colonial government, by the celebrated Hlubi chief Langalibalele in 1873, is at Giants Castle Nature Reserve in the uKhahlamba Drakensberg Park World Heritage Site. Various battle sites associated with the Basotho Wars between the Boer Republic of the Orange Free State and the Sotho Kingdom of Moshoeshoe I are to be found in the eastern Free State, including Clarens, and adjacent parts of Lesotho. Sites belonging to the period of the Anglo-Boer War (1898-1901) abound in the eastern Free State portion of the project area. These are typically areas where skirmishes took place or where ammunition was destroyed. A few rock engravings belonging to the Anglo-Boer War period have been documented from the Golden Gate Highland Park. However, thorough research is still required to ascertain the meaning and value of these engravings. Many historical sites can be categorised as belonging to the “built environment” as defined in heritage legislation. These are the physical remnants and traces of historical settlements that underpin the cultural value and meaning of the surrounding communities.

2.1.7. Graves

There are various grave sites belonging to different periods and cultural associations in the Maloti Drakensberg region. Perhaps the most famous sites are those belonging to the southern Sotho royalty at Botha Bothe in Lesotho; the grave of Nkosi Langalibalele at Giants Castle; KwaZulu Natal graves associated with the royalty of the amaZizi and amaNgwane near Bergville, KwaZulu-Natal; the grave of Adam Kok at Matatiele, Eastern Cape; and various graves in the Free State belonging to the Voortrekker and Anglo-Boer War periods. Interestingly, graves belonging to the prehistoric San inhabitants of the area are markedly absent or, as yet, have not been identified by researchers.

2.1.8. The Living Heritage

The living heritage of the Maloti Drakensberg area is varied and as yet little understood. Yet preliminary investigations by the Maloti Drakensberg Project (Anderson 2007) indicate that certain areas, including sites in communal areas, are still frequented by local communities who afford them ritual or sacred significance. Such locales may include archaeological sites with a living heritage component or natural features such as mountains, forests, boulders, caves, pools, or waterfalls with cultural significance. Living heritage is not only site-specific but also relates to oral history, indigenous knowledge systems, and indigenous languages, practices, and beliefs. Oral history specifically is a rich resource that has been passed down the generations and provides diverse narratives and interpretations concerning places of historical significance. It also provides a window on community perspectives regarding heritage resources, including indigenous names for sites and plant and animal species – all of which are imbued with cultural meaning. Perhaps the best known living heritage sites situated in the near vicinity of Clarens are the Badimong and Motoleng pilgrimage and traditional healer training sites. Motoleng, also called Salpeterkrans, is a large sandstone shelter situated approximately 15km from Clarens. Apart from its living heritage values it was also used as a hide-out by Boer women during the Anglo-Boer War of 1899-1901.

Indigenous Knowledge Systems (IKS) constitute an integral component of local knowledge, at grass roots level, often associated with traditional methods of land management and use. In this regard, IKS can enhance conservation and sustainable management of cultural heritage to which communities may relate. Conservation should provide an enabling environment for communities to continue with the tradition of transmitting knowledge and skills and of safeguarding their cultural heritage. Traditional ceremonies still performed in the greater Maloti Drakensberg region include the *Bale* initiation schools among certain southern Sotho groups, the *amemulo* (coming of age) ceremonies among the amaNgwane, the *Nkubelwana* (planting of the first seed) among Zulu-speakers, rainmaking, and various ceremonies associated with the veneration of the ancestors. Six indigenous languages are still spoken in the area, including siBhaca, which was believed to be almost extinct.

Two broad categories of site-specific living heritage sites have been identified:

- Sites of national significance of which nine have been identified in the SA portion of the Maloti Drakensberg area. These include rock art sites, sandstone shelters without any archaeological remains but used extensively as pilgrimage sites, two sacred

forests, and three sacred mountains. All of these sites are frequented by indigenous groups as part of an annual pilgrimage.

- Sites of local significance include various pools, waterfalls, hot springs, kaolin and red ochre deposits, and boulders afforded special significance by traditional healers and sectarian Christian groupings. Seventeen such sites have been identified in the larger Maloti Drakensberg area.

2.1.9. Palaeontology

Given its nature, palaeontology should be a component of geology and biodiversity. Nevertheless, the present heritage legislation in South Africa also covers palaeontology. In fact, the heritage management procedures relating to palaeontology are almost identical to those of archaeology. The palaeontological history of the Maloti Drakensberg area is fascinating as it tells the story of the super southern continent called Gondwanaland and its associated fauna and flora preserved today as fossils (McCarthy & Rubidge 2005). Fossils and footprints belonging to various periods from around 270 million years ago to around 180 million years ago have been recorded and collected in the geological layers beneath the basalts. These layers, amongst other interesting facts, provide evidence of the greatest mass extinction of species in the world around 251 million years ago towards the end of the Permian period. Some species survived this extinction as attested by abundant fossils of certain species such as *Lystrosaurus* found deep in the Triassic period layers. Many of these occurrences can be found within a 10km radius from the study area. Whereas the majority of fossilized remains in the area are *therapsids* (mammal-like reptiles, ancestors of most mammal species today), the Maloti Drakensberg also harbours evidence of some of the earliest dinosaurs in the world. Footprints belonging to these early dinosaurs appear in various localities in the Molteno formations of both Lesotho and South Africa. The most celebrated palaeontological site occurs in the Golden Gate Highlands National Park. Here the earliest known dinosaur eggs in the world and a near intact embryo of an average sized dinosaur, i.e. *Massospondylus*, were located by scientists some thirty years ago. These early eggs, dated to almost 200 million years ago, are almost 100 million years older than other known dinosaur nest egg sites in the world. In adjacent Lesotho the Qomoqomong Dinosaur footprint and museum site has been developed for tourism purposes. The endemic turkey size dinosaur *Lesothosaurus* is known from various localities within Lesotho.

Summary

The cultural heritage of the greater Maloti Drakensberg region (including the Clarens area) is rich, diverse, and fragile. The area contains a high density of prehistoric rock art that parallels the well known Upper-Palaeolithic rock art of Western Europe in artistic execution and symbolism. In addition, it harbours a rich and diverse record of palaeontological fossils that, for the most part, pre-date the Jurassic period of popular imagination. The mountains are also the heartland of the *Difaqane* – a period of tribal turmoil that developed as a direct response to the expansion of the Zulu state of Shaka in the 1820s. Many Iron Age sites in the area belong to this period, including significant sites associated with the founding of the Basotho Kingdom under King Moshoeshoe I. It was also the area traversed by some of the most dramatic diasporas documented in southern African history, including the Great Trek of the Voortrekkers, The Griqua trek via Ongeluksnek, the wanderings of the amaHlubi, amaNgwane, amaZizi, and amaBhaca tribal entities, and the lesser-known but equally dramatic trek of the //Xegwi San in 1879 – the last rock artists of the region. Sites related to these historical events abound in the Drakensberg and are windows into a significant period of the history and culture of southern Africa. That some of these cultural expressions are still alive is witnessed by the occurrence of significant living heritage sites in the region. Most of these are used as sites of pilgrimage by visitors from South Africa, Lesotho, and even further abroad.

3 BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

A desktop study was conducted of the SAHRIS website in order to assess previous heritage surveys (excluding palaeontological investigations) and heritage site identification in the near environs of the study area. The heritage data base of the National Museum Bloemfontein was also consulted. However, none of these known heritage sites occur in the immediate vicinity of the footprint nor will they be impacted-upon by the proposed development. A survey of the available aerial photographs of the area also indicate no structures or features that may have heritage value.

A ground survey following standard and accepted archaeological procedures was conducted. The study area was walked by foot and each development structure was investigated.

3.2 Restrictions encountered during the survey

3.2.1 Visibility

Visibility during the site visit was good.

3.2.2 Disturbance.

There is no evidence of disturbance of any heritage sites in the study area.

3.3 Details of equipment used in the survey

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

4 DESCRIPTION OF SITES AND MATERIAL OBSERVED

4.1 Locational data

Province: Free State

Municipality: Dihlabeng Local Municipality, Thabo Mofutsanyane District Municipality

Town: Clarens

4.2 Description of the general area surveyed

Although important archaeological and other heritage sites occur in the greater Clarens area none were recorded in the actual footprint. No heritage sites are therefore threatened by the proposed development.

4.3 Dating the findings

Not applicable.

4.4 Description and distribution of heritage material found

Not applicable as no heritage sites occur on the footprint.

5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

5.1 Field Rating

The SAHRA system of field rating (Table 2) does not apply to this study as there are no heritage sites on the footprint.

Table 2. Field rating and recommended grading of sites (SAHRA 2005)

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

6 RECOMMENDATIONS

The proposed upgrading of the Clarens Water Treatment Works and associated activities will not have any impact on heritage sites in the study area as no sites occur on the footprint. There is no archaeological reason why the proposed development may not proceed as planned. No graves were noted in the study area and it is also not part of any known cultural landscape. It should, however, be pointed out that the National Heritage Act requires that operations exposing archaeological and historical residues should cease immediately pending an evaluation by the heritage authorities.

7 MAPS AND PHOTOGRAPHS

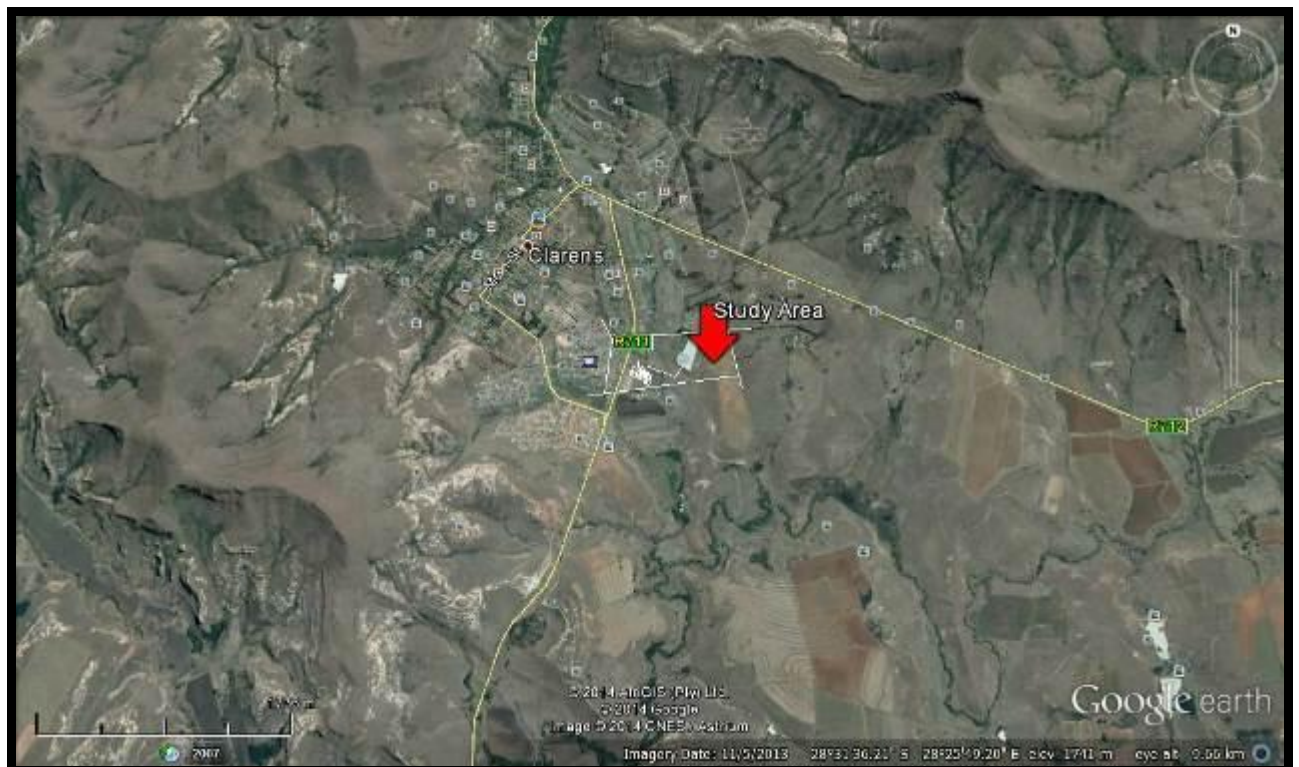


Figure 1. Google aerial photograph showing the location of the Study Area relative to Clarens

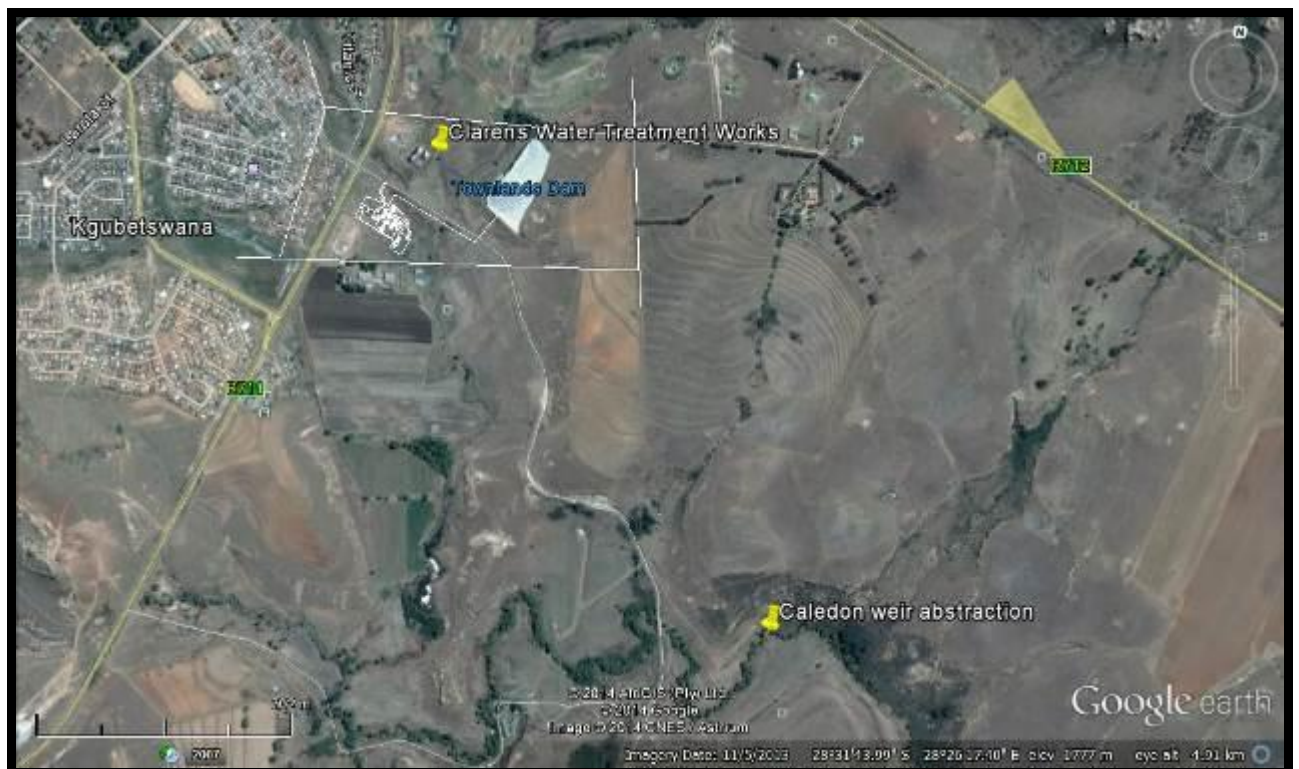


Figure 2. Google aerial photograph showing the location of the Clarens Water Treatment Works and the Caledon Weir Abstraction



Figure 3. Clarens Water Treatment Works



Figure 4. Sludge lagoons at the Clarens Water Treatment Works, none of the structures are older than 60 years.



Figure 5. View from Clarens Water Treatment Works towards Khubetswana. No graves were observed on the study area.



Figure 6. Townlands Dam



Figure 7. Dam Wall at Townlands Dam



Figure 8. Caledon Weir Abstraction

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