

**Heritage scoping report with  
preliminary impact assessments for the N6/N2 Fibre Optic Cable:  
ALIWAL NORTH TO GEORGE VIA EAST LONDON AND  
PORT ELIZABETH**

## HERITAGE SCOPING REPORT WITH PRELIMINARY IMPACT ASSESSMENTS FOR THE N6/N2 FIBRE OPTIC CABLE: ALIWAL NORTH TO GEORGE VIA EAST LONDON AND PORT ELIZABETH

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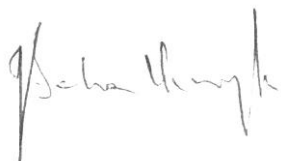
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**Declaration:**

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



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September 2011

## **EXECUTIVE SUMMARY**

### **HERITAGE SCOPING REPORT WITH PRELIMINARY IMPACT ASSESSMENTS FOR THE N6/N2 FIBRE OPTIC CABLE: ALI WAL NORTH TO GEORGE VIA EAST LONDON AND PORT ELIZABETH**

Jeffares & Green (Pty) Ltd was appointed by Sirius Access Solutions (Pty) Ltd to undertake a Basic Environmental Assessment Application Process for the proposed construction of a Fibre Optic Cable within the SANRAL road reserve of the following National Roads, between the following major Towns (Eastern and Western Cape):

- Along the N6 Aliwal North and East London;
- Along the N2 East London and Port Elizabeth; and
- Along the N2 Port Elizabeth and George.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Jeffares & Green (Pty) Ltd to conduct a review to determine the possibility of and extent to which sites, features or objects of cultural heritage significance might occur within the boundaries of the area where it is planned to install the fibre optic cable.

This report describes the cultural heritage of the landscape through which the proposed fibre optic cable will pass. Broadly speaking, the purpose is to determine if any problem areas occur where sites, features or objects of cultural heritage significance might necessitate the implementation of mitigation measures or, as a worst case scenario, a complete change in the proposed development plan.

- In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to be Grade III significance, i.e. there is nothing that would prevent the project from proceeding.

However, in considering the project, it is advisable that an ecological control officer (ECO), if not already involved, should be involved with the project. If this person is not familiar with matters of cultural heritage, it is recommended that he or she should spend some time with a heritage practitioner in order to be familiarised with potential problems and the correct procedures to follow in the case where sites, features and objects of cultural significance are encountered.

The preliminary study and field survey has identified the following which are important, from a heritage point of view, to consider when installing the cable.

- A number of sites and features have been identified to occur in close proximity of the N6/N2 roads and this information is presented in Appendix 3 of this report.
- However, those are not the only areas/places of concern and therefore the following is viewed to be applicable for the whole route.

#### **Stone Age**

- Areas of high sensitivity – coastal region where shell middens might occur.

It is doubtful if any undisturbed sites or features dating to the Stone Age would be found within the road reserve.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Iron Age**

- Areas of high sensitivity – in the region of East London, especially near river banks.

It is doubtful if any undisturbed sites or features dating to the Iron Age would be found within the road reserve.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Burial sites**

- Areas of high sensitivity – sporadically all over.

Although some of these sites go right up to the outside border of the road reserve, most are clearly visible and can therefore easily be avoided.

- Mitigation – as burial places are highly sensitive areas, it is recommended that they are demarcated off with danger tape, allowing a sufficient large enough buffer zone (e.g. 5 metres from the outside of the burial place) around it and declaring that as a no-go zone.
- Mitigation - should graves be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Cultural landscapes**

- Areas of high sensitivity – a number of features that forms part of the cultural landscape, such as memorials, entrance gates, avenues of trees and outspans/resting places occur sporadically all over.

Many of these features are located on the borders of the road reserve. Fortunately, these features are clearly visible and it would be easy to avoid them.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.
- Mitigation - surface features such as memorials, although illegal, should be respected and care should be taken to avoid damaging them. It is the easiest to demarcate them with danger tape, allowing a sufficient large enough buffer zone (e.g. 2 metres from the centre point) around it and declaring that as a no-go zone. If that is not possible, the feature must be photographed in situ, removed for the duration of construction to a safe storage facility and afterwards returned to its original position.

### **Built environment**

- Areas of high sensitivity - the proposed fibre optic cable traverses a number of historic town cores.

The installation would definitely have an impact on heritage features such as pavements, water furrows, postal boxes, trees, etc. It is possible that some buried features may be uncovered/disturbed during the installation of the cable.

- Mitigation - excavation of the trench through the historic cores of towns and cities should be monitored by a heritage practitioner. Although this is not required on a full time basis, the project manager/ECO must be able to stop the work if anything such as refuse dumps, water furrows, etc. are uncovered in order to get a heritage consultant to investigate and evaluate the finds.

### **Industrial heritage**

- Areas of high sensitivity – old bridges, telephone lines and power lines occur sporadically all over.

Many of these features, e.g. telephone lines, are located right on the border of the road reserve.

- Mitigation - if work is taking place in regions where such lines or bridges still exists, care should be taken to avoid causing damage.

In conclusion, if the above procedures as well as those set out in Section 7 of this report are adhered to, from a heritage point of view there are no reasons why the excavation of the trench for the fibre optic cable cannot take place.



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September 2011

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## **GLOSSARY OF TERMS AND ABBREVIATIONS**

### **TERMS**

**Study area:** Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

**Iron Age:** Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

**Historical Period:** Since the arrival of the white settlers - c. AD 1840 - in this part of the country

### **ABBREVIATIONS**

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

# HERITAGE SCOPING REPORT WITH PRELIMINARY IMPACT ASSESSMENTS FOR THE N6/N2 FIBRE OPTIC CABLE: ALIWAL NORTH TO GEORGE VIA EAST LONDON AND PORT ELIZABETH

## 1. INTRODUCTION

Jeffares & Green (Pty) Ltd was appointed by Sirius Access Solutions (Pty) Ltd to undertake a Basic Environmental Assessment Application Process for the proposed construction of a Fibre Optic Cable within the SANRAL road reserve of the following National Roads, between the following major Towns (Eastern and Western Cape):

- Along the N6 Aliwal North and East London;
- Along the N2 East London and Port Elizabeth; and
- Along the N2 Port Elizabeth and George.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Jeffares & Green (Pty) Ltd to conduct a survey to determine the possibility of and extent to which sites, features or objects of cultural heritage significance might occur within the boundaries of the area where it is planned to install the fibre optic cable.

## 2. TERMS OF REFERENCE

### 2.1 Scope of work

This report describes the cultural heritage of the landscape through which the proposed fibre optic cable will pass. Broadly speaking, the purpose is to determine if any problem areas occur where sites, features or objects of cultural heritage significance might necessitate the implementation of mitigation measures or, as a worst case scenario, a complete change in the proposed development plan.

The objectives therefore were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

### 2.2 Limitations and assumptions

- Cultural heritage resources are taken to be as defined in the National Heritage Resources Act, No. 25 of 1999 – see Section 3 below.



- The proposed cable trench is to be located inside the road reserve, but the exact alignment is not yet available.
- No construction sites, repeater sites or deviation routes were inspected as this information was not available.
- This report does not deal with palaeontological resources or geological sites.
- Information on built environment surveys is limited and in most cases quite old. As most available databases predate the NHRA, they do not reflect the criteria currently used to designate heritage resources and its significance as set out in Act 25 of 1999.
- Although many sites are known from the larger region through which the fibre optic cable it to pass through, only those that are in close proximity, i.e. less than 50 metres from either side of the road reserve, have included in the survey.

### 3. HERITAGE RESOURCES

#### 3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
  - ancestral graves;
  - royal graves and graves of traditional leaders;
  - graves of victims of conflict;
  - graves of individuals designated by the Minister by notice in the Gazette;
  - historical graves and cemeteries; and
  - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;
  - objects of decorative or fine art;
  - objects of scientific or technological interest; and
  - 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).

#### 3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or

significance. This is determined in relation to a site or feature's uniqueness, condition of preservation and research potential.

According to 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

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

## 4. STUDY APPROACH AND METHODOLOGY

### 4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 and 2.

### 4.2 Methodology

#### 4.2.1 Preliminary investigation

##### 4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted as well as a number of heritage impact assessment reports.

- Information of a very general nature was obtained from these sources.

##### 4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *South African Heritage Resources Agency Site List*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in the study area, which were verified during the site visit.

##### 4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

#### 4.2.2 Field survey

The area that had to be investigated was identified by **Jeffares & Green (Pty) Ltd** by means of maps. The site was visited over the period of 31 August to 3 September 2011. As this is a linear development the whole site was in effect surveyed twice, as it was driven in both directions.

## 5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 5.1 Site location and description

Sirius Access Solutions (Pty) Ltd propose to construct a Fibre Optic Cable within the SANRAL road reserve of the following National Roads, between the following major Towns (Eastern and Western Cape) (Fig. 1):

- Along the N6 for a distance of approximately 354km between Aliwal North and East London;
- Along the N2 for a distance of approximately 300km between East London and Port Elizabeth;
- Along the N2 for a distance of approximately 322km between Port Elizabeth and George.

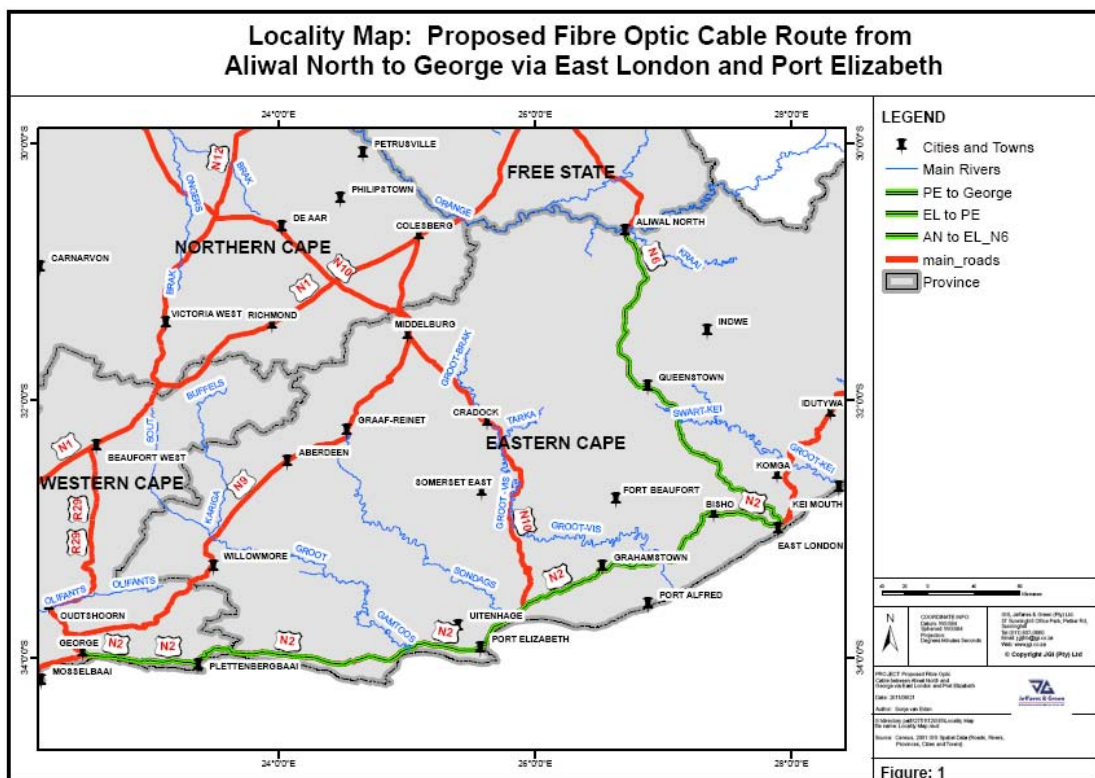


Fig. 1. Location of the study area (green line)  
(Map supplied by Jeffares & Green)

As such the route can be said to pass through three distinct cultural landscapes:

- An inland farming region which covers most of the region from Aliwal North to East London and from there to Port Elizabeth.
- A coastal region consisting largely of farming and conservation areas between Port Elizabeth to George.
- Urban regions which is found either inland or in the coastal region and varies from large cities to small towns.

## 5.2 Project description

The proposed construction of a Fibre Optic Cable within the SANRAL road reserve of the following National Roads, between the following major Towns (Eastern and Western Cape) (Fig. 1):

- Along the N6 for a distance of approximately 354km between Aliwal North and East London;
- Along the N2 for a distance of approximately 300km between East London and Port Elizabeth; and
- Along the N2 for a distance of approximately 322km between Port Elizabeth and George.

The standard construction method for the installation of the fibre optic cable is rapid trenching whereby the cables are installed by mechanical methods at approximately 1m below ground level. The trench will be approximately 300mm wide. In areas where shallow services, or hard rock occurs or where steep slopes occurs which will make drilling impossible, the following methods shall be considered:

- Trenching in hard rock will be relaxed to a depth of 300mm backfill covered over the uppermost duct and be protected by a concrete slab (either precast, or in situ) placed on top of the bedding material before backfilling.
- Trenching in hard rock will be excavated such that a split PVC or HDPE (High Density Polyethylene) sleeve placed over the ducts can be bedded on 100mm bedding and surrounded by a concrete encasement measuring 100mm thick to both sides of the side walls and the top of the sleeve, in such a manner that the finished concrete does not protrude more than 50mm in general above the mean surface of the rock into which the trench has been excavated.
- A split PVC or HDPE sleeve placed over the ducts shall be fully encased in concrete cast directly on to the surface of the rock that has been excavated into a reasonably flat surface. Such concrete shall measure 150mm to each side wall and 250 mm to the top of the sleeve. The concrete shall be cast in situ into a suitable formwork to achieve a regular formwork and a regular smooth finish.
- Overpasses: Horizontal directional drilling below the cross road formation will be employed for the installation of the ducts. The drilling and installation of the ducts will be undertaken at an average of 2m depth. However, where obstacles are encountered the drilling may be undertaken as deep as 8-10m below ground level.
- Underpasses: The ducts will be routed through the base of the bridge parapets. Where this is not practical, horizontal drilling techniques will be employed to install the ducts under the cross road or railway line.
- Interchanges and intersections: The duct will be routed along the outside boundary of the interchange precinct. In the case of at-grade intersections, the cable will be installed under the cross road by horizontal drilling.
- Urban areas: The ducts will be laid in trenches in the surfaced road sides or under the pavement.

The crossing of riverbeds and other sensitive areas will be performed by employing the Horizontal Directional Drilling (HDD) Method. HDD is a trenchless construction method utilizing equipment and techniques from horizontal drilling technology and conventional road boring. It is used to install pipelines (steel or plastic), fibre optic and electric cables, and water

and waste water pipelines where conventional open trench construction is not feasible or will cause adverse disturbances to environmental features, land use or physical obstacles.

### 5.3 Regional overview

The cultural landscape qualities of the study region essentially consist of a rural area in which the human occupation is made up of a pre-colonial element (Stone Age and Late Iron Age) as well as a much later colonial (farmer) component. The second component is made up of urban and semi-urban areas.

#### RURAL AREAS

Archaeological sites in this area predominantly date to the Stone Age, although some sites dating to the Early Iron Age, sometimes referred to as early farmer communities, also occurs in a small section of the study area.

Human occupation of the larger geographical region took place since Early Stone Age (ESA) times. Tools dating to this period are mostly, although not exclusively, found in the vicinity of watercourses. The oldest of these tools are known as choppers, crudely produced from large pebbles found in the river. Later, *Homo erectus* and early *Homo sapiens* people made tools shaped on both sides, called bifaces. Biface technology is known as the Acheulean tradition, from St Acheul in France, where bifaces were first identified in the mid-19th century. Biface technology is found over a large area of Africa, some parts of India, Arabia and the Near East, as well as parts of western Europe. This is one of the longest-lasting technologies the world has known, spanning a period of more than 1,5 million years.

During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. Open sites were still preferred near watercourses, but the people also became adept at exploiting the coastal resources, especially the shellfish.

Occupation of the region seems to have increased during the Later Stone Age (LSA). These people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. A number of sites are known to occur in the region, especially along the coast where cave sites have produced important insight into the past. Also, for the first time (with a limited number of exceptions) we get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA. The LSA people have also left us with a rich legacy of rock art, which is an expression of their complex social and spiritual beliefs.

Iron Age sites in the region dates to the Early Iron Age and are mostly located in the vicinity of rivers, where people exploited the rich alluvial soils for crop production. The people are grouped to belong to various facies of the Kalundu Tradition of the Early Iron Age (Huffman 2007).

They were followed from the 15<sup>th</sup> century onwards by groups that are recognisable in modern times, now loosely referred to as the Xhosa. These people were later concentrated in regions that later became known as the Ciskei and Transkei.

By the late 18<sup>th</sup> century some Dutch speaking settlers took up farms, but it was only with the arrival of the 1820 Settlers that population numbers started to take off. An investigation of the Title Deeds of some of the farms under consideration indicated that they were surveyed as early as the 1820s, implying that they would have been occupied by colonists since then.

The architecture of these farmsteads can be described as a modified English vernacular tradition that was brought by these settlers to the Eastern Cape region after the 1820s. Farm buildings were generally single storied but town houses often reached two floors. Walls were thick and built in stone and the ridged roof, thatched or tiled, was terminated at either end by simple linear parapet gables.

In some cases outbuildings would be in the same style as the main house, if they date to the same period. However, they tend to vary considerably in style and materials used as they were erected later as and when they were required.

As a result of the sporadic conflict that existed between local people and later settlers, many of these farmsteads were fortified. In addition to this, a large number of forts were established, ostensibly to defend the British colony from invading Xhosa, during a process that took place over a number of years.

- Archaeological sites

Very little research has been done on the archaeology of the larger region and only a few published papers and studies are available. In contrast, cave site along the coast have been subject to intensive investigation, which contributed much to our understanding of human occupation of the region during the past few millennia.

<b>NHRA Category</b>	Archaeological and palaeontological sites
<b>Protection status</b>	
	General Protection - Section 35: Archaeology, palaeontology and meteorites



Fig. 2. Typical rock shelter in the inland region.

- Farmsteads

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

- Cemeteries

Apart from the formal cemeteries that occur in municipal areas (towns or villages), some quite informal, i.e. without fencing, can be expected to occur anywhere. Most of these cemeteries, irrespective of the fact that they are for land owner or farm labourers (with a few exceptions

where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	
General Protection - Section 34: Structures older than 60 years	

<b>NHRA Category</b>	Graves, cemeteries and burial grounds
<b>Protection status</b>	
General Protection - Section 36: Graves or burial grounds	



Fig. 3. An old farmstead and an informal burial place.

In contrast to the farm regions are the territories that formerly made up part of the former homeland of Ciskei, which remained largely underdeveloped and rural.

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	
General Protection - Section 34: Structures older than 60 years	

<b>NHRA Category</b>	Graves, cemeteries and burial grounds
<b>Protection status</b>	
General Protection - Section 36: Graves or burial grounds	



Fig. 4. A homestead and informal burial place in the old Ciskei.



A number of other features also occur sporadically next to the road:

- Entrance gates, some of which are very elaborate, but they mostly do not enjoy any protection under the heritage act, unless they can be associated with a historic property or event.
- Lanes of trees leading from the entrance gate up to the farmsteads. Theoretically, as they are manmade and if older than 60 years, they would enjoy heritage protection,
- Outspans or rest places are a very old phenomenon and date back to the days of travel by ox-waggon. They are usually not very old, although judged by the size of the trees occurring at some of them they can be quite old.
- Memorials, mostly commemoration people who have died in motor car accidents. These does not enjoy any protection status and are viewed by SANRAL to be illegal if erected inside the road reserve.



Fig. 5. Different types of features next to the road.

## URBAN AREAS

Statements on the numbers of sites and features of heritage significance in towns and villages are difficult to obtain as most information/data bases are quite old. Therefore, instead of giving an exact figure, which might be fatally wrong, a value judgment is given. This is based on factors such as the age of the town, its size, historic events, as well as a review of the available information.



### Aliwal North

The town was founded in 1849 by Sir Harry Smith and named to commemorate his decisive victory over the Sikhs at Aliwal in India. J. C. Chase was appointed as civil commissioner and magistrate of the new district and decided to lay the town out on a site on the left bank of the Orange River. The centre of the town, Juana square, was named after Smith's Spanish wife. Aliwal North obtained a village management board in 1854 and became a municipality in 1882. The hot water springs commenced development in 1877. The first war between the Republic of the Orange Free State and the Basotho broke out in March of 1858. The first treaty of Aliwal North was signed by President J. N. Boshoff and Moshesh on 29 September 1858, when the Warden Line of 1847 was modified to give the Basotho a considerable extension of territory. Despite this two more wars followed until the Basotho were defeated and Britain annexed Basotholand (Lesotho). A meeting between President J.H. Brand of the O.F.S and Sir Philip Wodehouse, Governor of the Cape Colony, on 12 February 1869 led to the signing of the second treaty of Aliwal North. This treaty ratified the annexation of Basotholand and fixed the new boundary.

- A variety of buildings and other structures (e.g. bridges and monuments) in Aliwal North enjoy national or provincial heritage status. Fortunately, most of these occur in side streets. The main street has been much altered and modernised. However, that does not mean that there might not be anything below pavement level.



### Jamestown

The town was named after James Wagenaar, the original owner of the farm on which it was laid out.

- The main street is very wide and shows little development. The town has only a few sites and features of national or provincial heritage significance, most of which fortunately does not occur in the main street.



### Queenstown

The town was founded by Sir George Cathcart in 1853 as the centre of a newly annexed area and named after Queen Victoria. Its layout is unique due to the central Hexagon, from which six streets radiate. This was meant to be a defensive measure during the Eighth Frontier War. The town became a municipality on 11 May 1855.

- Although it has a large number of structures enjoying national or provincial heritage status, few occur in the main street.
- During the site visit (August 2011) road construction activities also gave an opportunity to judge the possibility of hidden features that might occur in the street. Nothing was observed.



### Cathcart

A military post was established shortly after 1850 at the Windvogelberg, named after a San chief. Plots in the newly established township at the foot of the mountain were sold in 1858, and the town was named after Governor Sir George Cathcart. Municipal status was achieved in 1881.

- The main street is very wide and shows little development. The town has only a few sites and features of national or provincial heritage significance, most of which fortunately does not occur in the main street.



### Stutterheim

Berlin missionaries were the first Europeans to settle in the area, and established the Bethel mission in 1837. Three regiments of the British-German Legion, under the command of Major-General Richard von Stutterheim, were brought in during 1857. The troops settled around the Dohne Post fort, close to the missionary and named the town they founded after their commander. When the troops left they were replaced by German settlers who arrived during 1857 and 1858. Municipal status was achieved in 1879.

- The main street is very wide and shows little development. The town has only a few sites and features of national or provincial heritage significance, most of which fortunately does not occur in the main street.



### East London

In the 1830's the establishment of a harbour nearer to King William's Town and Fort Beaufort was necessitated by war times with the Xhosa as communication lines over land from Port Elizabeth were too far extended. A survey of the mouth of the Buffalo River was undertaken in 1836, and after a favourable report was submitted the port was named Port Rex. Due to the reversal of Sir Benjamin D'Urban's policy the British government withdrew their authority over Port Rex, and it's only ten years later during the Seventh Frontier War when the same strategic needs arose, that the mouth of the Buffalo River became regularly used. On 14 January 1848 the port and territory for two miles around were officially proclaimed as annexed to the Cape Colony. By then there was a stone jetty and by the end of 1849 at least 4 streets had been named. The first major improvements to the harbour were made in 1856 and a lighthouse was built. The settlement expanded rapidly towards the end of the 1850s due to the arrival of German veterans of the Crimean War. Most of these German families were sent to settle in potential defence points which became the Border towns. During 1858 and 1859 a

second group of German settlers, predominantly farmers and their families, arrived in the area. The first municipal commissioners were elected on 20 May 1873. The main harbour construction began in 1872, and the foundation stone of the present City Hall was laid in 1897. The town was elevated to the status of city in 1914. The equestrian monument was erected in 1908, and in 1937 a memorial marking the spot of the first hoisting of the British flag in the area was erected. Several other monuments dedicated to soldiers who died in the First and Second World War, the Basotho War and the Second Anglo-Boer War can also be found. The East London museum was built in 1931.

- This town, due to its age and importance in regional politics and the economic role it played due to its harbour, has a large number of sites and features of national and provincial heritage significance.
- Fortunately, as the proposed fibre cable will follow the N6/N2, it would largely by-pass the historic core of the town.



### King William's Town

Laid out on the site of John Brownlee's Buffalo mission station which was founded in 1825. It was named King William's Town in 1839 and became the military headquarters of the newly established Queen Adelaide Province. In 1847 it became the capital of the British Kaffraria colony and acquired civil rule in 1861. The nearby Fort Murray is well preserved as is Grey Hospital, built by Sir George Grey in 1859, and both are national monuments. It was also populated by settlers of the Anglo-German Legion.

- This town, due to its age and importance in regional politics has a large number of sites and features of national or provincial heritage significance.
- As the proposed fibre cable will follow the N2, it will pass through the historic core of the town.





## Peddie

The town played an important role in the frontier days, and Fort Peddie was established in 1835 on a ridge overlooking the town, and is now a historical monument. Stone watch fire towers were built along the hills and a stone tablet in the town is one of those marking the route Dick King followed on his famous ride. The town received municipal status in 1905.

- The main street is very wide and shows little development. The town has only a few sites and features of national or provincial heritage significance, most of which fortunately does not occur in the main street. In fact, the N2 passes on the outskirts of the town.



## Grahamstown

In 1812 Col. John Graham was instructed to choose a site for the eastern frontier military headquarters and he decided on the abandoned loan farm Rietfontein located on the Kowie River. On 14 August 1812 the Governor, Sir John Cradock, proclaimed the town 'Graham's Town'. The basic plans for the town were drawn up by John Knobel in 1814 and plots were sold by public auction in 1815. British settlers arrived in 1820, and after the suspension of the building of a drostdy at Bathurst in 1922, Grahamstown was declared the seat of the landdrost of Albany. The expansion of the town due to the rapid growth of trade was so exponential that by 1813 it became the principal town in the then Eastern Province. 1837 saw the municipal government entrusted to a board of municipal commissioners and the town was incorporated as a municipality in 1862. A session of Colonial Parliament was held at Grahamstown in 1864, the only time Parliament sat outside of Cape Town, and the session was opened in Shaw Hall while deliberations took place in the old military hospital. After troubles on the frontier had been settled the garrison withdrew, leaving the Old Provost, Fort Selwyn, Fort England and the Military Hospital as monuments to Grahamstown's military history. The town gained importance as a judicial and educational centre and in 1864 became the centre of the Eastern Districts Court. In 1910 it became the Eastern Districts Local Division of the Supreme Court of South Africa, and in 1957 a Provincial Division of the Supreme Court of South Africa.

- This town, due to its age and importance in regional politics and the economic role it played, has a large number of sites and features of national or provincial heritage significance.
- Fortunately, as the proposed fibre cable will follow the N2, it would by-pass not only the historic core of the town, but the town as a whole.



### Colchester

The little town named after the oldest town in the United Kingdom, apparently rose to challenge Port Elizabeth as a port about a century ago. The driving force behind the challenge was the engineer who had come all the way from Westminster and who envisaged Colchester as the railway centre for the Eastern Cape Province. Whilst the unique flow of the river made this area an obvious location, today both residents and visitors are only too happy to remain surrounded by natural habitat, largely undeveloped, save for the recent property boom.

- The main street is very wide and shows little development. The town has no sites or features of national or provincial heritage significance.
- The section of the N2 passing through this area is current being upgraded and widened.



### Port Elizabeth

Although Bartolomeu Dias presumably set foot not far from the present city in March 1488 and farms had been established in 1776, it was only in 1799 that Fort Frederick, the first military station in the area, was established. The fort was built to defend the harbour from attack both from land and sea, and is believed to be the oldest building of British construction in Africa south of the equator. Port Elizabeth's founding dates, however, only from the arrival of the 1820 settlers. Settlers were welcomed by Sir Rufane Donkin who ordered the establishment of the township. Many of these settlers saw the potential of the town as a centre for commerce and trade, and their early attempts paved way for the later industry of the area. The foundation stone of the town hall was laid on 18 October 1858 by Sir George Grey and was completed in 1862. The Memorial Campanile, with a carillon of 23 bells was

commenced in 1921 in remembrance of the 1820 settlers. Port Elizabeth's monuments include: the Campanile, the Donkin Memorial, the Horse Memorial, the Dias Cross (the original), Queen Victoria statue, First World War Memorial and the Prince Alfred Guard War Memorial.



### Plettenberg Bay

The name of the bay changed frequently up until Governor Joachim van Plettenberg, during an extensive tour of the Colony 1778, erected a beacon of slate 2m high and engraved with the VOC monogram and his name, thus forever fixing the town name. In 1788 a timber warehouse was erected, and in August that year the first load of timber was shipped there. What is left of the warehouse has been declared a national monument. A prehistoric human skull was found by Rev. W.G. Sharples in a rock shelter on the northern side of the Robberg peninsula, overlooking Plettenberg Bay.

- Fortunately, as the proposed fibre cable will follow the N2, it would by-pass the historic core of the town.



### Knysna

The town occupies the site of the estate of George Rex, who lived on the farm Melkhoutkraal from 1804 to 1839. The hamlet Melville was founded in 1825 and in 1846 the adjoining hamlet of Newhaven. These two were fused into one village, named Knysna, in 1882. The name is thought to have been derived from the Khoi-San word meaning 'fern' or 'fern leaves'. The foundation stone of the Anglican St. George's Church was laid in 1849, and the consecration took place in 1855. The town became a municipality in 1881.

- This town, due to its age and importance in regional economics it has a large number of sites and features of national or provincial heritage significance. The proposed fibre cable will follow the N2 and as a result it will pass through the centre of the historic core of the town.



### George

The town was established in 1806 after the British Occupation of the Cape. It was proclaimed in 1811 and named George Town, in honour of King George III of England, who donated a Bible to the local church. It became a municipality in 1884.

- Although the town has a number of sites and features of national and provincial significance, all are located in the town centre, where the cable would not pass through as the N2 does not pass through town.



## 6. SITE SIGNIFICANCE AND ASSESSMENT

### 6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;



- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

## 6.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high.

- In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to be Grade III significance.

## 7. RECOMMENDED 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 development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted can be written into the management plan, whence they can be avoided or cared for in the future.

### 7.1 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 National Heritage Resources Act (Act No. 25 of 1999), should these be discovered during construction.

#### 7.2.1 Construction phase

General management objectives and commitments:

- To avoid disturbing sites of heritage importance; and
- To avoid disturbing burial sites.

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 work.
- 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 museum, preferably one at which an archaeologist is available, 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 National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

### 7.2.2 Operation phase

No additional measures will be required once the cable is in place and the trenches have been backfilled.

## 8. CONCLUSIONS

This report describes the cultural heritage of the landscape through which the proposed fibre optic cable will pass. Broadly speaking, the purpose is to determine if any problem areas occur where sites, features or objects of cultural heritage significance might necessitate the implementation of mitigation measures or, as a worst case scenario, a complete change in the proposed development plan.

- In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to be Grade III significance, i.e. there is nothing that would prevent the project from proceeding.

However, in considering the project, it is advisable that an ecological control officer (ECO), if not already involved, should be involved with the project. If this person is not familiar with matters of cultural heritage, it is recommended that he or she should spend some time with a heritage practitioner in order to be familiarised with potential problems and the correct procedures to follow in the case where sites, features and objects of cultural significance are encountered.

The preliminary study and field survey has identified the following which are important, from a heritage point of view, to consider when installing the cable.

- A number of sites and features have been identified to occur in close proximity of the N6/N2 roads and this information is presented in Appendix 3 of this report.
- However, those are not the only areas/places of concern and therefore the following is viewed to be applicable for the whole route.

### Stone Age

- Areas of high sensitivity – coastal region where shell middens might occur.

It is doubtful if any undisturbed sites or features dating to the Stone Age would be found within the road reserve.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Iron Age**

- Areas of high sensitivity – in the region of East London, especially near river banks.

It is doubtful if any undisturbed sites or features dating to the Iron Age would be found within the road reserve.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Burial sites**

- Areas of high sensitivity – sporadically all over.

Although some of these sites go right up to the outside border of the road reserve, most are clearly visible and can therefore easily be avoided.

- Mitigation – as burial places are highly sensitive areas, it is recommended that they are demarcated off with danger tape, allowing a sufficient large enough buffer zone (e.g. 5 metres from the outside of the burial place) around it and declaring that as a no-go zone.
- Mitigation - should graves be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.

### **Cultural landscapes**

- Areas of high sensitivity – a number of features that forms part of the cultural landscape, such as memorials, entrance gates, avenues of trees and outspans/resting places occur sporadically all over.

Many of these features are located on the borders of the road reserve. Fortunately, these features are clearly visible and it would be easy to avoid them.

- Mitigation - should any sites, features or object of cultural significance be exposed during excavation activities, all work in the region of the find must stop immediately and a heritage consultant should be contacted to investigate and evaluate the finds.
- Mitigation - surface features such as memorials, although illegal, should be respected and care should be taken to avoid damaging them. It is the easiest to demarcate them with danger tape, allowing a sufficient large enough buffer zone (e.g. 2 metres from the centre point) around it and declaring that as a no-go zone. If that is not possible, the feature must be photographed in situ, removed for the duration of construction to a safe storage facility and afterwards returned to its original position.

### **Built environment**

- Areas of high sensitivity - the proposed fibre optic cable traverses a number of historic town cores.

The installation would definitely have an impact on heritage features such as pavements, water furrows, postal boxes, trees, etc. It is possible that some buried features may be uncovered/disturbed during the installation of the cable.

- Mitigation - excavation of the trench through the historic cores of towns and cities should be monitored by a heritage practitioner. Although this is not required on a full time basis, the project manager/ECO must be able to stop the work if anything such as refuse dumps, water furrows, etc. are uncovered in order to get a heritage consultant to investigate and evaluate the finds.

### **Industrial heritage**

- Areas of high sensitivity – old bridges, telephone lines and power lines occur sporadically all over.

Many of these features, e.g. telephone lines, are located right on the border of the road reserve.

- Mitigation - if work is taking place in regions where such lines or bridges still exists, care should be taken to avoid causing damage.

In conclusion, if the above procedures as well as those set out in Section 7 of this report are adhered to, from a heritage point of view there are no reasons why the excavation of the trench for the fibre optic cable cannot take place.

## 9. REFERENCES

### 9.1 Data bases

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### 9.2 Literature

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### 9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps  
Google Earth

## APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

### Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

<b>1. Historic value</b>				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
<b>2. Aesthetic value</b>				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
<b>3. Scientific value</b>				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
<b>4. Social value</b>				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
<b>5. Rarity</b>				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
<b>6. Representivity</b>				
Is it 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.				
<b>7. Sphere of Significance</b>		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
<b>8. Significance rating of feature</b>				
1.	Low			
2.	Medium			
3.	High			

## APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export to the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.



## APPENDIX 3. LIST OF IDENTIFIED SITES

Code	Class	Name	Farm	Latitude	Longitude
3026DA001	Historic	Frere Bridge	Aliwal North Town	-30.68634	26.70565
3026DA002	Historic	Hertzog Bridge	Aliwal North Town	-30.68607	26.70557
3026DA003	Historic	Garden of Remembrance	Aliwal North Town	-30.70449	26.70851
3126BB001	Historic	Kidwell Memorial Church	Plessies Kraal 189	-31.12282	26.80827
3126BB002	Historic	Louw Wepener Monument	Nek 180	-31.04358	26.86665
3126BB003	Historic	Barn	Morgenzon 129	-31.01073	26.84957
3126BB004	Historic	Cemetery	Plessies Kraal 189	-31.13130	26.81230
3126BB005	Historic	Cemetery	Nek 180	-31.04111	26.86568
3126BC002	Historic	Rock shelter	Drooge Fontein 155	-31.44608	26.69485
3126DC002	Historic	Bailey Hamlet	Klein Fontein 66	-31.79735	26.72521
3126DD005	Historic	City Hall	Queenstown Commonage	-31.89720	26.87376
3126DD006	Historic	Building	Queenstown Commonage	-31.89406	26.87474
3227AA004	Historic	Bridge	Douglas 291	-32.05686	27.10149
3227AA005	Historic	Bridge	Merino Walk 289	-32.10832	27.11109
3227AA006	Historic	Bridge	Hopewell 15	-32.15833	27.12142
3227AC001	Historic	Powder Magazine	Cathcart	-32.29523	27.14149
3227AC002	Historic	Barn	Cathcart	-32.29666	27.14171
3227AC004	Historic	Bridge	Cathcart	-32.32062	27.15882
3227CB002	Historic	Cemetery	Stutterheim	-32.59588	27.44077
3227DD003	Historic	Cemetery	MacLean Town	-32.79477	27.75385
3227CD008	Historic	Cemetery	Rhayi 24	-32.89270	27.33107
3227CD010	Historic	Cemetery	Ngxwalane 54	-32.90147	27.32866
3227CD020	Historic	Monument	King William's Town	-32.87837	27.39190
3227CD021	Historic	Monument	King William's Town	-32.87834	27.39218
3227CD022	Historic	Church	King William's Town	-32.87848	27.39197
3326BC005	Historic	Democratic Rights Monument	Grahamstown	-33.32354	26.51530
3325DB006	Historic	House	Vetmaak Vlakte 312	-33.69540	25.81385
3325CC001	Historic	Van Stadensrivier Bridge	Van Stadensrivier 463	-33.90911	25.19717
3324DD013	Historic	Grave	Kabeljauwsrivier 321	-33.99300	24.92316
3324DD014	Historic	Bridge	Uitkomst 325	-33.99326	24.92661
3423AA001	Historic	Grave of George Rex	Knysna Town	-34.04234	23.07843
3423AA002	Historic	Monument	Knysna Town	-34.03524	23.04817