

**Cultural heritage resources impact assessment  
FOR THE PROPOSED SWAZILAND RAIL LINK, SOUTHERN SECTION,  
KWAZULU-NATAL REGION**

**CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR THE  
PROPOSED SWAZILAND RAIL LINK, SOUTHERN SECTION, KWAZULU-NATAL  
REGION**

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## **EXECUTIVE SUMMARY**

### **CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR THE PROPOSED SWAZILAND RAIL LINK, SOUTHERN SECTION, KWAZULU-NATAL REGION**

Currently, much of the coal from the South African inland coalfields is transported via the existing Coal Line through Ermelo to Richards Bay. Transnet commissioned a feasibility study to evaluate the possibility of a rail link from Ermelo utilising the Buhrmanskop - Lothair branch-line to connect with the Swaziland rail network, and eventually to the Port of Richards Bay or Maputo, a strategic rail link with 20t minimum axle loading making the best use of installed infrastructure.

In summary, the study identified a technically feasible route between Davel (Dalo) linking into the Swaziland network at Sidvokodvo, provided that the connecting networks are upgraded. Upgrading will involve doubling (in places), new alignments outside the reserve (deviations), and realignment within the reserve and formation repairs on a large scale.

The study concluded that the project holds significant advantages in relieving the pressure on the Coal Line, attracting traffic from the Maputo Corridor (longer and heavier traffic), providing a strategic link to export – critical South African export Ports, as well as encouraging economic and rail transport growth in Swaziland.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to the KwaZulu-Natal Heritage Act, Act No. 4 of 2008 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 the KwaZulu-Natal Heritage Act, Act No. 4 of 2008, an independent heritage consultant was therefore appointed by **Aurecon** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to upgrade/develop the railway line. This report deals only with the KwaZulu-Natal section, i.e. from Golela on the Swaziland border to Richards Bay. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural heritage significance found within the area in which it is proposed to upgrade/develop the railway line.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age and limited Iron Age) as well as a much later colonial (farmer/plantation) component. The second component is an urban landscape dating to the colonial period and is linked to the rural colonial landscape.

The following sites, objects and structures of cultural heritage significance were identified:

- Stone tools dating from the Early and Middle Stone Age are known to occur sporadically in the study area. As these objects are open finds and not in their original position anymore they are classified as find-spots rather than sites. Such places and artefacts are viewed as having a low significance.
  - All the known Stone Age find-spots in the study area are currently viewed to have low significance on a regional level and are classified as being of Grade III significance.
  - **No further action is required with regard to these sites.**

- A number of concrete arch and metal truss bridges across different rivers have been identified.
  - Dependant on the number of similar structures (according to function, age and architectural features) in the region, these features are viewed to have high significance on a regional level and are classified as being of Grade III significance.
  - **In all probability these features are older than 60 years, although some of them might have been upgraded in the past. As they are inside the railway lines, the probability that it would be impacted on is very high. If that is to be the case, it should be documented (architectural drawings, descriptions and full photographic documentation) unless such information can be access from Transnet Heritage Foundation. After acceptance of this documentation by Amafa aKwaZulu-Natali/Heritage, application for a permit for its destruction can be applied for.**



J A van Schalkwyk  
Heritage Consultant

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## **GLOSSARY OF TERMS AND ABBREVIATIONS**

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

## **LIST OF ABBREVIATIONS**

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

# CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR THE PROPOSED SWAZILAND RAIL LINK, SOUTHERN SECTION, KWAZULU-NATAL REGION

## 1. INTRODUCTION

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to the KwaZulu-Natal Heritage Act, Act No. 4 of 2008 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.

Currently, much of the coal from the South African inland coalfields is transported via the existing Coal Line through Ermelo to Richards Bay. Transnet commissioned a feasibility study to evaluate the possibility of a rail link from Ermelo utilising the Buhrmanskop - Lothair branch-line to connect with the Swaziland rail network, and eventually to the Port of Richards Bay or Maputo, a strategic rail link with 20t minimum axle loading making the best use of installed infrastructure.

In summary, the study identified a technically feasible route between Davel (Dalo) linking into the Swaziland network at Sidvokodvo, provided that the connecting networks are upgraded. Upgrading will involve doubling (in places), new alignments outside the reserve (deviations), and realignment within the reserve and formation repairs on a large scale.

The study concluded that the project holds significant advantages in relieving the pressure on the Coal Line, attracting traffic from the Maputo Corridor (longer and heavier traffic), providing a strategic link to export – critical South African export Ports, as well as encouraging economic and rail transport growth in Swaziland.

In accordance with the KwaZulu-Natal Heritage Act, Act No. 4 of 2008, an independent heritage consultant was therefore appointed by **Aurecon** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to upgrade/develop the railway line. This report deals only with the KwaZulu-Natal section, i.e. from Golela on the Swaziland border to Richards Bay.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the Amafa aKwaZulu-Natali.

## 2. STUDY APPROACH

### 2.1 Scope of work

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied – this material was presented in an earlier scoping report (Van Schalkwyk 2013); and
- A visit to the proposed development area.

The objectives 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**

The investigation has been influenced by the following factors:

- The unpredictability of archaeological remains occurring below the surface.
- Even though a number of publications dealing with aspects of the heritage of this region appeared recently, very little published information regarding the location of heritage sites exists;
- The knowledge on location of heritage sites is largely informed by development projects. Areas where there is not much development, is therefore under researched.
- In some sections the large-scale development of plantations and sugar cane fields might have had a devastating effect on heritage resources in an era prior to their legislative protection (e.g. Fig. 1). The dense tree and cane cover also makes the detection of possible sites very difficult.
- In other areas the proposed line cut through rural communities (e.g. Fig. 2). As no information on public participation with regard to the development of the railway line is available, it was difficult to access these areas as the concern is that questions in this regard might lead to the development of unnecessary stress, and therefore resistance, in these communities.

## **2.3 Assumptions**

- It is assumed that a Paleontological Review will be done by a suitably qualified specialist.





Fig. 1. The proposed railway line going through plantations and cane fields.  
(Photo: Google Earth)



Fig. 2. Example of how the railway line would pass through settled areas.  
(Photo: Google Earth)

### 3. HERITAGE RESOURCES

#### 3.1 The National Estate

The KwaZulu-Natal Heritage Act 2008 defines a heritage resource as any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes, but is not limited to, the following wide range of places and objects:

- living heritage as defined in the National Heritage Council Act 11 of 1999 (cultural tradition; oral history; performance; ritual; popular memory; skills and techniques; indigenous knowledge systems; and the holistic approach to nature, society and social relationships);
- ecofacts (non-artefactual organic or environmental remains that may reveal aspects of past human activity; definition used in KwaZulu-Natal Heritage Act 2008);
- places, buildings, structures and equipment;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds;
- public monuments and memorials;
- sites of significance relating to the history of slavery in South Africa;
- movable objects, but excluding any object made by a living person; and
- battlefields.

#### 3.2 Cultural significance

In the KwaZulu-Natal Heritage Act, Act No. 4 of 2008, "cultural significance" means of aesthetic, architectural, historical, scientific, social, spiritual or technological value or significance.

The South African Heritage Resources Agency (SAHRA) developed guidelines to help determine if a site has cultural significance or other special value, based on:

- 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.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 2). This allowed some form of control over the application of similar values for similar identified sites.

## 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 Fig. 5.

### 4.2 Methodology

#### 4.2.1 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 reports, anthropological, archaeological and historical sources were consulted.

- Information on events, sites and features in the larger region were obtained from these sources.

#### 4.2.2 Databases

The database housed by the *Natal Museum*, Pietermaritzburg, the *Heritage Sites Database* and the *Environmental Potential Atlas* were consulted. Some documents were tracked down in the various databases of the National Archives of South Africa (NASA), especially in the SAB and TAB holdings. Other sources include the Chief Surveyor General, and the various lists produced by the South African Heritage Resources Agency (SAHRA).

- Database surveys produced a number of sites located in the larger region of the proposed development.

#### 4.2.3 Other sources

Topocadastral and other maps were also studied - see the list of references below. Aerial photographs, where available, were used.

#### 4.2.2 Field survey

The area that had to be investigated was identified by **Aurecon Consulting Engineers** by means of maps and .kmz files. As this is a linear development and it follows the existing railway line over most of the distance, the survey was conducted by following the existing and proposed line as close as possible - see the track log of the site survey presented in Fig. 3. The field survey was conducted on two days: 12 and 13 October 2013.

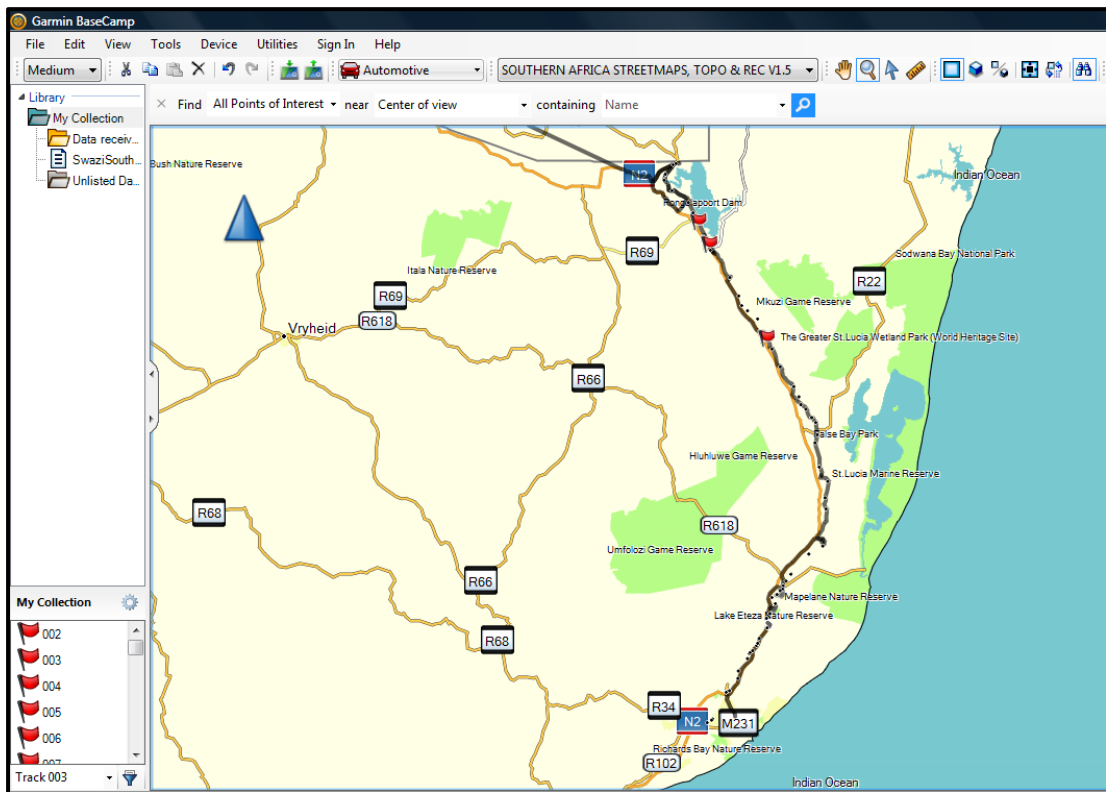


Fig. 3. Track log of the field survey.

## 5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 5.1 Site location

The study area is a linear development running from Davel in Mpumalanga, via Sidvokdvo in Swaziland to the deep water port of Richards Bay. This report deals only with the KwaZulu-Natal section, i.e. from Golela in KwaZulu-Natal on the Swaziland border southwards towards Richards Bay.

The geology is made up of basalt in the north, changing to sand in the south. The topography of the study area can be described as slightly undulating plains in the north, changing to plains in the south. The original vegetation is classified as Natal Lowveld Bushveld in the north, changing to Coastal Bushveld/Grassland in the south. However, large sections of the original vegetation have disappeared due to agricultural activities.



Fig. 4. Views over the study area.

## 5.2 Development proposal

The routing for the study includes the following areas and is depicted below in Figure 5 below.

- Davel to Breyton (incl. the re-establishment of the link between Estansia and Breyton)
- Breyton to Burmanskop
- Burmanskop to Lothair (i.e. the Lothair branchline)
- Lothair to KaDake to Matsapha – new alignment
- Lothair to Matsapha – new alignment
- Matsapha to Phuzumoya
- Phuzumoya to Beluluane (Maputo)
- Phuzumoya to Golela
- Golela to Nsese (Richard's Bay)

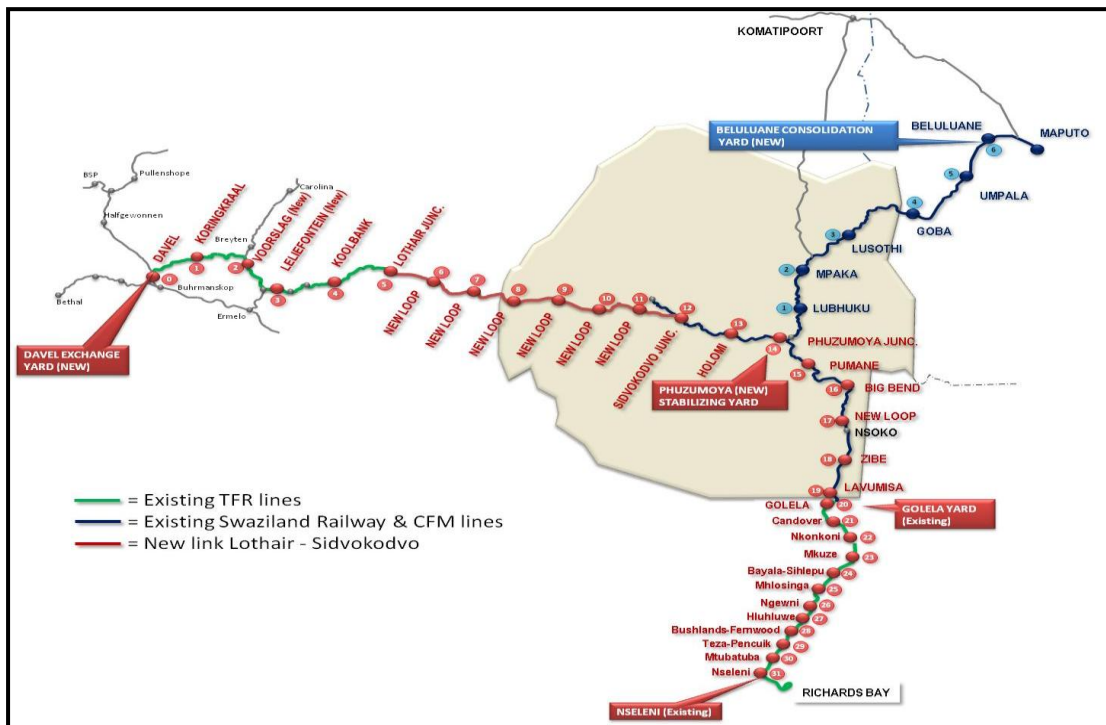


Fig. 5. The study area in relation to the existing rail network.

### 5.3 Overview of the cultural heritage of the region

#### Stone Age

From available evidence, it seems that very little habitation of the region took place during the Early Stone Age. This change during the Middle Stone Age and some sites are known to occur to the north of the study area. Although no sites dating to the Later Stone Age are known from the larger region, some very important sites occur in the Ukhahlamba Mountains, Biggersberg and Ngome escarpment. The latter sites are mostly rock shelters that were occupied on and off over a long period of time.

#### Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470.

Most information on the region is based on surveys that were done in the Hluhluwe Nature Reserve (Natal Museum Database). Sites dating to all periods, except the Early Iron Age, were identified in the park.

The occupation of the larger geographical area (including the study area) started during the so-called Early Iron Age and is part of the Kalundu Tradition that links with the Kwale sites of Kenya. These early sites occur almost always in the dunes of the coastal forest belt, extending inland into the lower-laying savannah areas in the vicinity of rivers - see for example the various maps in Huffman (2007).

During the Late Iron Age settlements seems to move to higher ground further away from rivers. This seems to indicate a defensive position. The latter part of this period was characterised by increased military tension, the reason of which is quite complex but has to do with changing environmental circumstances, population increase, penetration of white settlers into the region and lucrative trade networks with the coast.

#### *Historic period*

By 1824 the entire Zululand was under the control of the abaKwazulu, previously a small and insignificant clan. The Bulawayo capital of the Zulu was moved from the Mkubane site and rebuilt on a hilltop overlooking the Mhlatuze River near the present Eshowe / Empangeni road. It was here that Shaka, king of the Zulu, met pioneer Natal settlers Fynn, Farewell and Isaacs.

The Hluhluwe area was originally a royal hunting ground for the Zulu kingdom, but was established as a park in 1895. The Umfolozi and Hluhluwe reserves were established primarily to protect the white rhinoceros, then on the endangered species list.

#### *The existing railway line*

The short (1880s to 1930s), yet intense period of railway development in South Africa saw the construction of a large number of bridging structures. Although the rivers and divides that had to be bridged are not as large as in Europe or North America, it never-the-less resulted in a number of hugely interesting and significant structures being developed (Van Schalkwyk 2013).

The existing railway line was constructed, from Durban northwards up to Mtubatuba by 1926 and completed up to Golela by 1927 (Fig. 6). Information regarding this development, the cost, number of bridges, stations and proposed route, was obtained from the 1924 Government Blue Book and is presented in Appendix 3 of this report.

In essence the total length of the line was to be 90 miles (88 miles for the route and 2 miles for side lines). The total budget was to be £ 350,412 and the construction was scheduled to last 1½ years. This also included the 9 bridges and culverts and the 18 stations and halts.

Analysis of the old topocadastral maps, dating respectively to 1942, 1966 and 1979 (Fig. 7), shows that the only roads that existed in the region until the late 1960s were gravel roads, in most cases following the railway line and this was eventually to become the R102. It was only during the early 1970s that the current N2 was constructed in northern KwaZulu-Natal (Floor 1985:43-44). Although the authoritative *Donaldson's South African Motor Routes (1924)* does not indicate a suitable road in the study region, a scrutiny of the different maps indicated that in other regions the roads also used to follow the railway lines. One result of this is that many of the road bridges are located in close proximity to the railway line, in some cases even close enough to share the same substructure (Fig. 8).







Fig. 8. Concrete road bridge near the railway line and an example where they share the same substructure.

#### 5.4 Identified sites

The following sites and features of cultural heritage significance were identified. Attention was given to the existing servitude as well as to the areas where new development is to take place. In addition, sites located in close proximity of the servitude were also included as a proactive measure to prevent possible future damage.

##### 5.4.1 Archaeological sites

<b>K-NHA Category</b>	Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites
<b>Protection status</b>	General Protection - Section 36: Archaeological sites: Stone Age find spots

Location	No. 1	S27.59583	E32.01861
	No. 2	S27.77361	E32.13611
	No. 3	S27.95417	E32.25111
	No. 4	S27.95583	E32.25139
	No. 5	S27.97806	E32.26333
	No. 6	S28.20556	E32.30056
	No. 7	S28.09722	E32.2875
	No. 8	S28.14111	E32.31000
	No. 9	S28.03972	E32.27778
	No. 10	S28.05333	E32.27639
	No. 11	S28.13111	E32.28889
	No. 12	S28.13333	E32.29167
	No. 13	S28.13417	E32.30278
	No. 14	S28.04167	E32.27778
	No. 15	S28.46722	E32.1625
	No. 16	S28.435	E32.16944
	No. 17	S28.43694	E32.16889
	No. 18	S28.4475	E32.15944
	No. 19	S28.4475	E32.15944
	No. 20	S28.58389	E32.10056
	No. 21	S28.59944	E32.09389
	No. 22	S28.77028	E31.97944
	No. 23	S28.30944	E32.30056

<b>Description</b>	
<p>A number of sites where material dating to the Stone Age (Fig. 9) has been identified (Fig. 10). According to information supplied by Dr Gavin Whitelaw of the Natal Museum, Pietermaritzburg, these are basically find spots, i.e. areas where artefacts, flakes and cores have been identified as surface finds. Most of this material dates to the Middle Stone Age, although some also date to the Early Stone Age.</p> <p>During the field visit some of these sites were visited, using the coordinates that were supplied. However, in most cases the Stone Age material could not be identified. Two reasons can be advanced: the density of the original material scatters was very low, or that the coordinates, most of which were determined without modern GPS technology, were not very accurate.</p>	
<b>Significance</b>	Low on a regional level – Grade III
<b>Mitigation</b>	
<p>As this material is surface material, it is not in its original context anymore and is therefore viewed to have low significance. Consequently no further action is required.</p>	

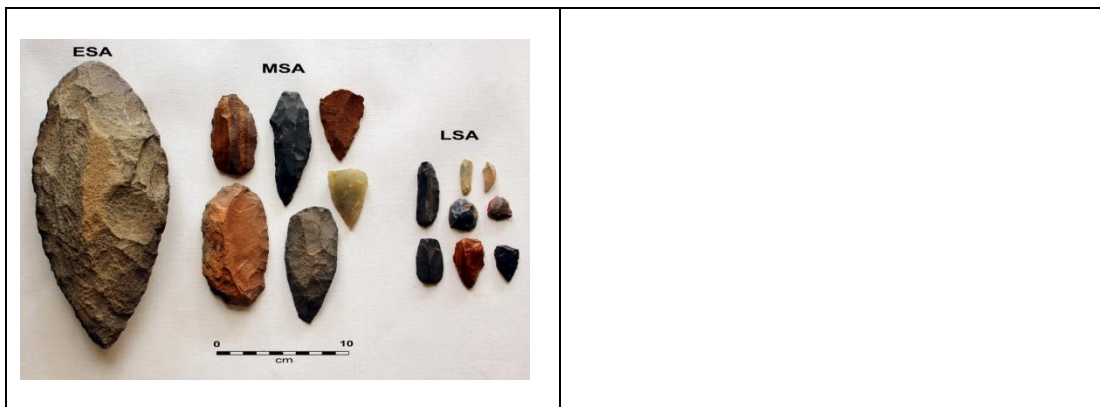


Fig. 9. Stone tool typology.

*The stone tools (on the left) are not from the region and are only used to illustrate the difference between Early (left), Middle (middle) and Later Stone Age (right) technology.*

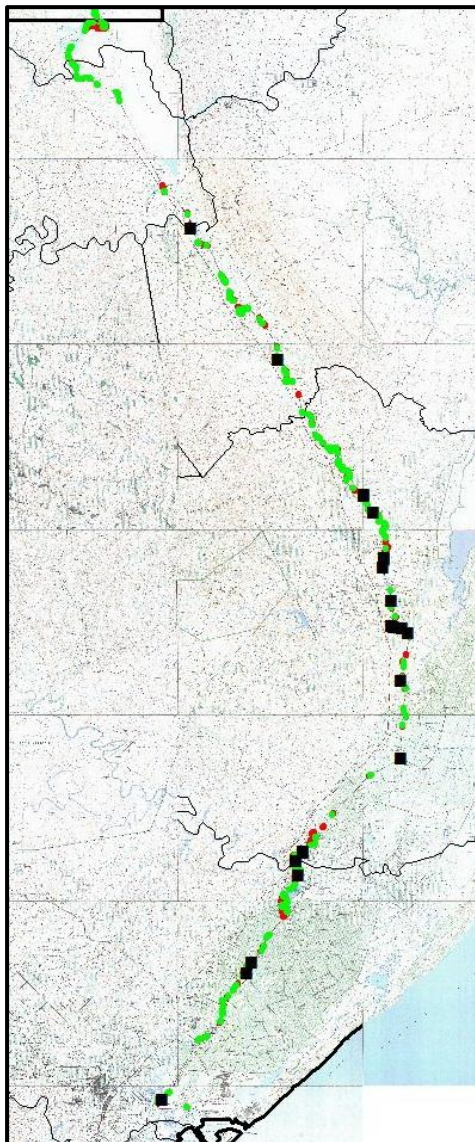


Fig. 10. Distribution of the Stone Age find spots.

5.4.2 Bridges

<b>K-NHA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	General Protection - Section 33: Structures older than 60 years

<b>Location</b>	No. 1	S 27.36990	E 31.85636
	No. 2	S 27.48009	E 31.95047
	No. 3	S 27.50857	E 31.96507
	No. 4	S 27.53108	E 31.97613
	No. 5	S 27.59367	E 32.01814
	No. 6	S 27.77411	E 32.13694
	No. 7	S 27.82819	E 32.16520
	No. 8	S 27.83936	E 32.16710
	No. 9	S 27.84461	E 32.17153
	No. 10	S 27.87498	E 32.18637

No. 11	S 28.00277	E 32.27584
No. 12	S 28.03967	E 32.27714
No. 13	S 28.05290	E 32.27644
No. 14	S 28.13472	E 32.30213
No. 15	S 28.13512	E 32.30528
No. 16	S 28.13509	E 32.30486
No. 17	S 28.44536	E 32.15805
No. 18	S 28.49524	E 32.14394
No. 19	S 28.64134	E 32.06112
No. 20	S 28.68843	E 32.02741

**Description**

A variety of road and railway bridges across different rivers have been identified (Fig. 11 & 12). They represent different technological developments, from concrete arch structures to metal truss bridges and stone culverts. What is significant in this part of the country is that many road bridges are located in close proximity to the railway line, in some cases even close enough to share the same substructure (Fig. 8).

Some of these structures have undoubtedly been upgraded in the past, but, unfortunately in most cases it is very difficult to determine when and what sections were upgraded.

**Significance** | High on a regional level – Grade III

**Mitigation**

Due to the age of the railway line and associated roads, most of the bridges are probably older than 60 years, thereby enjoying general protection under the heritage legislation. As these features are inside the railway lines, the probability that it would be impacted on is very high. If that is to be the case, it should be documented (architectural drawings, descriptions and full photographic documentation) unless such information can be access from Transnet Heritage Foundation. After acceptance of this documentation by SARHA, application for a permit for its destruction can be applied for.

If there is no impact on the bridges or culverts, no further action would be required.





Fig. 11. The different types of bridges and culverts.

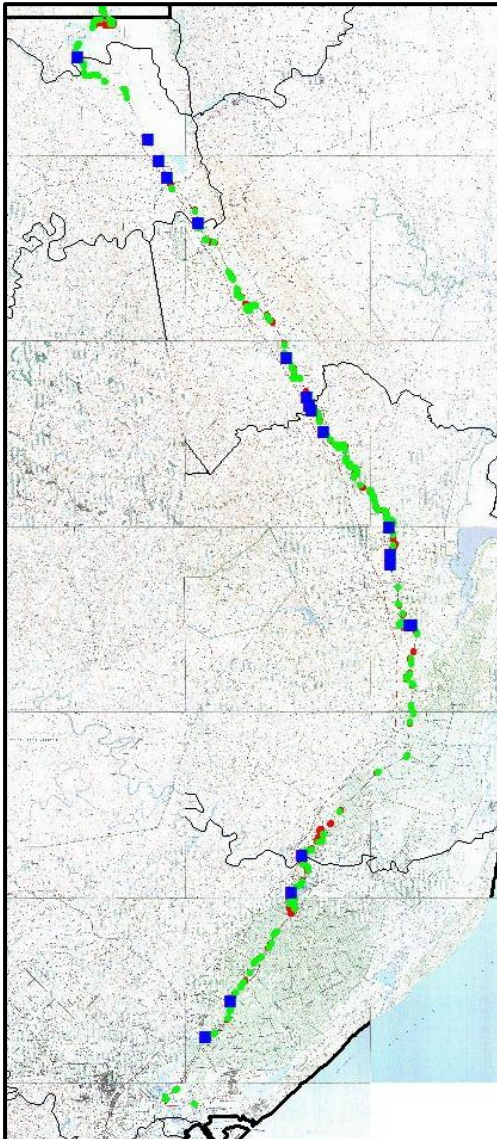


Fig. 12. Location of the different bridges (blue squares).

## 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.

Sites regarded as having low significance is viewed as recorded in full after identification and would require no further mitigation. Impact from the development would be judged to be low. Sites with a medium to high significance would require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

## 6.2 Statement of significance

Based on current information regarding sites in the surrounding area, all sites expected to occur in the study region are judged to have **Grade III significance** and therefore would not prevent the proposed development for continuing after the implementation of the proposed mitigation measures and its acceptance by SAHRA.

Table 1. Summary of identified heritage resources.

<b>Identified heritage resources</b>	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
<b>Formal protections (NHRA)</b>	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
<b>General protections (NHRA)</b>	
structures older than 60 years (Section 34)	Yes
archaeological site or material (Section 35)	Yes
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
<b>Other</b>	
Any other heritage resources (describe)	None

Based on current knowledge and understanding of the area, one can evaluate the heritage sites in the area as follows:

- Stone tools dating from the Early and Middle Stone Age are known to occur sporadically in the study area. As these objects are open finds and not in their original position anymore they are classified as find-spots rather than sites. Such places and artefacts are viewed as having a low significance.

- **All the known Stone Age find-spots in the study area are currently viewed to have low significance on a regional level and are classified as being of Grade III significance.**
- A number of concrete arch and metal truss bridges across different rivers have been identified.
  - In all probability these feature are older than 60 years, although some of them might have been upgraded in the past. As they are inside the railway lines, the probability that it would be impacted on is very high. If that is to be the case, it should be documented (architectural drawings, descriptions and full photographic documentation) unless such information can be access from Transnet Heritage Foundation. After acceptance of this documentation by SARHA, application for a permit for its destruction can be applied for.
  - **Dependant on the number of similar structures (according to function, age and architectural features) in the region, these features are viewed to have high significance on a regional level and are classified as being of Grade III significance.**

## 7. CONCLUSIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural heritage significance found within the area in which it is proposed to upgrade/develop the railway line.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age and limited Iron Age) as well as a much later colonial (farmer/plantation) component. The second component is an urban landscape dating to the colonial period and is linked to the rural colonial landscape.

The following sites, objects and structures of cultural heritage significance were identified:

- Stone tools dating from the Early and Middle Stone Age are known to occur sporadically in the study area. As these objects are open finds and not in their original position anymore they are classified as find-spots rather than sites. Such places and artefacts are viewed as having a low significance.
  - All the known Stone Age find-spots in the study area are currently viewed to have low significance on a regional level and are classified as being of Grade III significance.
  - **No further action is required with regard to these sites.**
- A number of concrete arch and metal truss bridges across different rivers have been identified.
  - Dependant on the number of similar structures (according to function, age and architectural features) in the region, these features are viewed to have high significance on a regional level and are classified as being of Grade III significance.
  - **In all probability these features are older than 60 years, although some of them might have been upgraded in the past. As they are inside the railway**



lines, the probability that it would be impacted on is very high. If that is to be the case, it should be documented (architectural drawings, descriptions and full photographic documentation) unless such information can be access from Transnet Heritage Foundation. After acceptance of this documentation by Amafa aKwaZulu-Natali/Heritage, application for a permit for its destruction can be applied for.

## 8. REFERENCES

### 8.1 Data bases

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### 8.2 Literature

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Van Schalkwyk, J.A. 2013b. *Bridging the Country: a short history of nearly all South African Bridges*. Paper presented at the 2013 Conference of the Association of Southern African Archaeologists, Gaborone, Botswana.

### **8.3 Maps and aerial photographs**

1: 50 000 Topocadastral maps  
Google Earth

## APPENDIX 1. RELEVANT LEGISLATION

### **Kwazulu-Natal Heritage Act, No. 4 of 2008**

This Act is implemented by Amafa aKwaZulu-Natali/Heritage KwaZulu-Natal, the provincial heritage resources authority charged to provide for the conservation, protection and administration of both the physical and the living or intangible heritage resources of the province; along with a statutory Council to administer heritage conservation in the Province.

#### **Definitions of heritage resources**

The Act defines a heritage resource as any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes, but is not limited to, the following wide range of places and objects:

- living heritage as defined in the National Heritage Council Act 11 of 1999 (cultural tradition; oral history; performance; ritual; popular memory; skills and techniques; indigenous knowledge systems; and the holistic approach to nature, society and social relationships);
- ecofacts (non-artefactual organic or environmental remains that may reveal aspects of past human activity; definition used in KwaZulu-Natal Heritage Act 2008);
- places, buildings, structures and equipment;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds;
- public monuments and memorials;
- sites of significance relating to the history of slavery in South Africa;
- movable objects, but excluding any object made by a living person; and
- battlefields.

Furthermore, 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; and
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.

**Archaeological** means –

- material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and is older than 100 years including any area within 10m of such representation;
- wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act 15 of 1994, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

A **place** is defined as:

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

**Public monuments and memorials** mean all monuments and memorials:

- erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government; or
- which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.

**Structures** means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

## Management of Graves and Burial Grounds

### *Grave*

The KwaZulu-Natal Cemeteries and Crematoria Act 12 of 1996 defines a grave as an excavation in which human remains have been intentionally placed for the purposes of burial, but excludes any such excavation where all human remains have been removed.

### *Burial ground*

The term 'burial ground' does not appear to have a legal definition. In common usage the term is used for management purposes to describe two or more graves that are grouped closely enough to be managed as a single entity.

### *Cemetery*

The KwaZulu-Natal Cemeteries and Crematoria Act 1996 defines a cemetery as any place

- where human remains are buried in an orderly, systematic and pre-planned manner in identifiable burial plots;
- which is intended to be permanently set aside for and used only for the purposes of the burial of human remains.

*Protection of graves and cemeteries*

No person may damage, alter, exhume, or remove from its original position any grave, as defined above, without permission from the relevant authority, as detailed in the following table.

## APPENDIX 2: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF CULTURAL 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 3: HISTORIC BACKGROUND ON THE DEVELOPMENT OF THE MTUBATUBA TO GOLELA RAILWAY LINE

The following information was found in the Government Blue Book on the development of the railway line from Mtubatuba towards the Pongola River (Golela region). It also includes a map of the proposed route that is to be followed.



The original report



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*Voornaamste Kenmerken van Sektie No. 3.*

De meest in 't oog lopende kenmerken van het traject tussen de Umkuzi en de Pongola zijn :—

- (a) De lichte aardwerken over 't grootste gedeelte van de lengte van de spoorlijn.
- (b) Met uitzondering van de Umkuzi Rivier, zullen de kosten van de kleinere bruggen en duikers gering zijn.
- (c) De hellingen zullen gemakkelik zijn voor 't grootste gedeelte van de spoorbaan. De algemene hellingen zijn 1 in 50 "Op" en 1 in 66 "Af."
- (d) De bochten zijn niet al te scherp en het aantal bochten zal gering zijn.
- (e) De afwezigheid van zand uitgezonderd bij de grote rivieren Umkuzi en Pongola.
- (f) Het dichte katdoorn struikgewas dat een belangrijke streek nabij de rivieren overdekt.

**2. LENGTE VAN SPOORLIJN.**

Sektie.	Mijlen.	Kettingen.
No. 1—Sektie Matubatuba tot H.39 . . . . .	32	52,5
No. 2—Van H.39 tot de Umkuzi Rivier . . . . .	39	78,5
No. 3—Van de Umkuzi Rivier tot de Pongola Rivier . . . . .	15	29
Totaal—Matubatuba tot de Pongola Rivier . . . . .	88	mijlen.

*Spoorbaan Mijllengten.*

	Mijlen.	Kettingen.
Matubatuba tot de Pongola Rivier . . . . .	88	00
Matubatuba tot Chanene . . . . .	70	55
Chanene tot de Pongola Rivier . . . . .	17	25

**3. HELLINGEN.**

De algemene helling "Op" is 1 in 50 gekompenseerd voor de gehele lengte van de lijn—van Nul tot het eindpunt te Pongola (88 mijlen).

De algemene helling "Af" is echter 1 in 50 gekompenseerd, alleen voor de eerste 32½ mijlen, terwijl deze voor 't overige gedeelte van de lijn 1 in 66 gekompenseerd bedraagt.

**4. AARDWERKEN.**

De aardwerken over de gehele lijn van Matubatuba naar het eindpunt te Pongola Rivier zijn buitengewoon licht, in aanmerking nemende de heuvelachtige aard van de landstreek tussen 42 mijlen en de Chanene.

*Ballast Steengroeven.*

Goede terreinen voor tijdelike ballast kunnen worden geopend langs de lijn tussen 45 mijlen 50 kettingen en de Chanene.

**5. BRUGGEN EN DUIKERS.**

De kosten van bruggen en duikers voor een permanente spoorlijn van Matubatuba naar Pongola zijn hoog, in aanmerking nemende de gemakkelijke aardwerken, maar opgemerkt zal worden dat de voorgestelde spoorlijn een aantal rivieren kruist die niet veraf van de kust gelegen zijn, en daaruit volgt natuurlijk dat de kosten hoog moeten zijn. Maar aangezien vele daarvan kunnen worden gekruist door middel van een laagliggende brug, kunnen de beginkosten van aanleg laag gehouden worden. (Zie laagliggende bruggen.)

Onderstaand is een lijst van de grotere bruggen, aantonende de afmetingen en het aantal spanningen :—

Volgorde.	Naam van Rivier.	Afmeting en aantal spanningen.
1	Inyalazi . . . . .	1.100 voet en 2.60 voet.
2	Hluluwe . . . . .	8.60 voet op staal peilers.
3	Umsinene . . . . .	1.50 voet.
4	Ingweni . . . . .	1.50 voet.
5	Mdama . . . . .	1.50 voet. (Rots fundering.)
6	Umsindusi . . . . .	2.100 voet.
7	Umkuzi . . . . .	5.100 voet. (Rots fundering.)
8	Inhlezan . . . . .	1.20 voet.
9	Mpete . . . . .	1.30 voet.

Indication of the length of the line and the number of bridges and their sizes.

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*Laagliggende Bruggen.*

De kwestie van laagliggende bruggen werd in Oktober 1923 onderzocht en de enige rivier die niet door een lage brug kan worden gekruist is de Inyalazi. Door gebruik te maken van een steile helling, zegge van 1 in 30, kunnen al de andere rivieren worden overspannen met laagliggende bruggen en met uitzondering van de Umsindusi, bestaat er geen noodzaak hoegenaamd om terug te vallen op bochten. Bij de Umsindusi zal een afwijking moeten worden gemaakt met bochten en van een straal van 300 vt.

6. STATIONS EN STOPPLAATSEN.

Onderstaand is een lijst van voorgestelde stations en stopplaatsen, met hun respectieve mijlafstanden :—

	Naam.	Station of Halte.	Mijlen.	
			M.	K.
1	Matubatuba .. ..	Bestaande Halte .. ..	Nul.	
2	Palm Ridge .. ..	Halte .. ..	6	10
3	St. Lucia .. ..	Halte .. ..	14	20
4	Ntondweni .. ..	Halte .. ..	22	05
5	Hluhluwe .. ..	Station .. ..	24	40
6	Umcamana .. ..	Halte .. ..	31	35
7	Ingweni .. ..	Halte .. ..	36	25
8	Bambeni Road .. ..	Halte .. ..	41	50
9	The Stables .. ..	Halte .. ..	47	20
10	Mdhuna .. ..	Halte .. ..	52	75
11	Ilendhle .. ..	Halte .. ..	56	70
12	Umtala .. ..	Halte .. ..	62	00
13	Ingobilene .. ..	Halte .. ..	68	15
14	Chanene .. ..	Station .. ..	70	55
15	Umkuzi .. ..	Halte .. ..	75½	Ongeveer.
16	Uitgevallen .. ..	Halte .. ..	80	"
17	Mpete .. ..	Halte .. ..	85	"
18	Pongola (Eindstation) .. ..	Station .. ..	88	"

*Opmerking.*—No. 16 bevindt zich op de hoogste top tussen de Umkuzi en Pongola Rivieren.

*Terreinen voor Woningen van Ploegbazen.*

Geschikte terreinen voor de woningen van Ploegbazen kunnen worden gevonden te Palm Ridge, St. Lucia, Hluhluwe, Ingweni, The Stables, Ilendhle, Umtala, Chanene, Uitgevallen en Pongola.

7. KAARTEN.

Onderstaande kaarten zijn klaargemaakt en vergezelen dit verslag :—

- (1) Schetskaarten.
- (2) Profielkaarten.
- (3) Trajekt Kaart.
- (4) Drainering Gebied Kaart.

(Get.) WALTER A. JAFFRAY,  
Distrikt Ingenieur.

Pietermaritzburg,  
31 Januarie 1924.

[U.G. 16—24.]

Indication of the number and type of stations.

18

ZUIDAFRIKAANSE SPOORWEGEN EN HAVENS.

MATUBATUBA—PONGOLA SPOORLIJN.

RAMING VAN KOSTEN VAN AANLEG.\*

Lengte van Spoorlijn . . . . . 88.00 Mijlen.  
 Lengte van Zijlijnen . . . . . 2.00 Mijlen.  
 Totaal . . . . . 90.00 Mijlen.

Nieuwe Spoorstaven, 45 lbs. Sektie ; Nieuwe Stalen Dwarsliggers, 1,760 per mijl.  
 Spoorwijdte, 3 vt. 6 duim, Scherpste Bocht 7½ Kettingen (495 vt.).

Algemene Helling . . . . . 1 in 50 "Op."  
 Algemene Helling . . . . . 1 in 50 "Af."

Tijd geschat om het werk te voltooien : 1½ jaar.

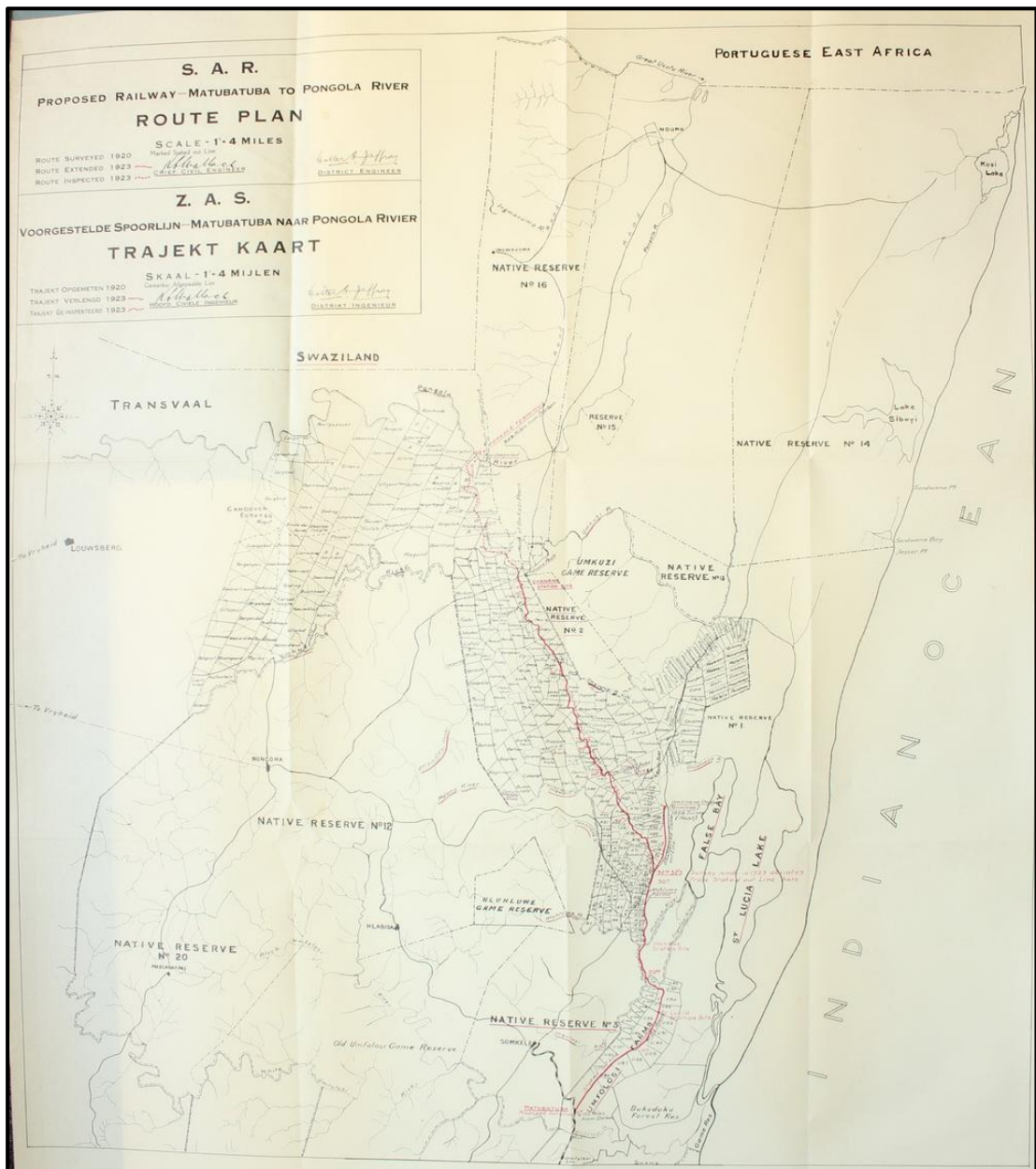
OVERZICHT.

Hoofd.	Geschatte Kosten.		Opmerkingen.
	Totaal.	Per Mijl voor Doorgaan- de Lijn.	
	£	£	
<i>Direkte Uitgaven.</i>			
1. Voorlopige Uitgaven . . . . .	7,216	82	
2. Land . . . . .	1,320	15	
3. Aardwerken . . . . .	30,800	350	
4. Bruggen, Duikers, Pijpen, Wegbruggen en Via-dukten . . . . .	49,280	560	
5. Spoorbaan . . . . .	184,800	2,100	
6. Omheining . . . . .	—	—	
7. Vlakke Overwegen . . . . .	1,320	15	
8. Sinjalen en Borden . . . . .	880	10	
9. Telegraaf, Telefoon en Blok Instrumenten . . . . .	6,160	70	
10. Stations . . . . .	7,040	80	
11. Woningen en Komponds . . . . .	8,800	100	
12. Lokoloodsen en Draaischijven . . . . .	1,760	20	
13. Water voorziening . . . . .	5,280	60	
	304,650	3,462	
<i>Indirekte Uitgaven.</i>			
14. Toezicht . . . . .	15,233	173	
15. Interest gedurende aanleg . . . . .	12,650	144	
16. Medies Toezicht . . . . .	2,640	30	
17. Bewerking van Publiek Vervoer . . . . .	—	—	
18. Voorlopige Rekening (Insluitende benodigdheden voor Station van Aansluiting) . . . . .	—	—	
19. Onvoorziene Uitgaven . . . . .	15,233	173	
Totaal . . . . .	£350,412*	£3,982*	

Kantoor van de Civiele Hoofdingenieur,  
 Johannesburg, 8 Februarie 1924.

\* De herziene raming voor de lijn met 60 lb. rails en stalen dwarsliggers en hoogpeil bruggen beloopt £419,760 of £4,770 per mijl.

A budget of expected costs of the railway line.



Route map of the proposed railway line.