

**PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE
MORNING TIDE DEVELOPMENT COMPLEX, MORNING TIDE POWER
LINE AND ABRINA RESIDENTIAL DEVELOPMENT**

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EXECUTIVE SUMMARY

Archaeology Africa was appointed by *WSP Environmental* to undertake a Phase 1 Heritage Impact Assessment on three proposed developments in the Lydenburg area of Mpumalanga. These developments are:

- Morning Tide Development Complex
- Morning Tide Power Line
- Abrina Residential Development.

The heritage study consisted of foot surveys, consultation with local knowledgeable individuals and a desktop study. It resulted in the discovery of twenty-three sites, most of which can be associated with the Late Iron Age (LIA). The results of the study can be summarised as follows:

Development	No. of Sites	LIA Stone Walled	LIA Rock Engraving	Historic	Cemeteries
Morning Tide Complex	13	9	2	2	-
Morning Tide Power Line	6	3	-	2	1
Abrina Residential	4	4	-	-	-

The locations of all these sites are shown under **Annexure B Site Distribution Maps**. The significance of each site has been assessed, and mitigation measures proposed (refer

Sections 4.2 (Morning Tide Development Complex Sites), **4.3** (Morning Tide Power Line Sites) and **4.4** (Abrina Residential Development Sites).

Due to the importance and sensitivity of the Iron Age in the vicinity of Lydenburg, it is recommended that a specialist of this specific field in the archaeology be appointed to accompany the author of this report to the study areas. The aim of this site visit would be for the specialist to evaluate the different Iron Age sites located during the survey, and make approvals/revisions to the present report. Until such time that the specialist has made his/her comments, the recommendations of this report with regard to the Iron Age sites must be considered provisional.

INDEX

1. INTRODUCTION.....	1
2. DESCRIPTION OF PROPOSED DEVELOPMENT AREA AND DEVELOPMENT	1
2.1 MORNING TIDE DEVELOPMENT COMPLEX.....	1
2.2 MORNING TIDE POWER LINE.....	1
2.3 ABRINA RESIDENTIAL DEVELOPMENT	3
3. METHODOLOGY	3
3.1 DESKTOP STUDY.....	5
3.2 FIELD SURVEY	5
3.3 CONSULTING WITH LOCAL INTERESTED AND/OR AFFECTED PARTIES	6
3.4 ASPECTS REGARDING VISIBILITY AND CONSTRAINTS	6
4. FINDINGS.....	7
4.1 DESKTOP STUDY FINDINGS	8
4.1.1 Cartographic findings.....	8
4.1.2 Archaeological and Historical Background.....	8
4.1.3 Early farm ownership.....	11
4.2 SURVEY FINDINGS – MORNING TIDE DEVELOPMENT COMPLEX	20
4.2.1 RDR 1.....	22
4.2.2 RDR 2.....	22
4.2.3 RDR 3.....	31
4.2.4 RDR 4.....	31
4.2.5 RDR 5.....	35
4.2.6 RDR 6.....	38
4.2.7 RDR 7.....	41
4.2.8 RDR 8.....	43
4.2.9 RDR 9.....	45
4.2.10 RDR 10.....	48
4.2.11 RDR 11.....	50
4.2.12 RDR 12.....	52
4.2.13 RDR 13.....	55
4.3 SURVEY FINDINGS – MORNING TIDE POWER LINE	56
4.3.1 MTP L 1.....	59
4.3.2 MTP L 2.....	61
4.3.3 MTP L 3.....	63
4.3.4 MTP L 4.....	64
4.3.5 MTP L 5.....	67
4.3.6 MTP L 6.....	71
4.4 SURVEY FINDINGS – ABRINA RESIDENTIAL DEVELOPMENT	72
4.4.1 ARD 1.....	73
4.4.2 ARD 2.....	73
4.4.3 ARD 3.....	75
4.4.3 ARD 4.....	77
	81

5. HERITAGE REQUIREMENTS IN TERMS OF SECTION 38 (3) OF THE	83
5.1 "THE IDENTIFICATION AND MAPPING OF ALL HERITAGE RESOURCES IN THE AREA AFFECTED"	83
5.2 "A(A)N EVALUATION OF THE IMPACT OF THE DEVELOPMENT ON HERITAGE RESOURCES	83
5.3 "T(T)HE RESULTS OF CONSULTATION WITH COMMUNITIES AFFECTED BY THE PROPOSED	84
6. CONCLUSIONS AND GENERAL RECOMMENDATIONS	84
BIBLIOGRAPHY	86

ANNEXURES

ANNEXURE A - LOCALITY MAP
ANNEXURE B - SITE DISTRIBUTION MAPS
ANNEXURE C - LEGISLATIVE FRAMEWORK

1. INTRODUCTION

Archaeology Africa was appointed by *WSP Environmental* to undertake a Phase 1 Heritage Impact Assessment on three proposed developments in the Lydenburg area of Mpumalanga. These developments are:

- Morning Tide Development Complex
- Morning Tide Power Line
- Abrina Residential Development

2. DESCRIPTION OF PROPOSED DEVELOPMENT AREA AND DEVELOPMENT

The study areas fall within the Thaba Chweu Local Municipality and the Ehlanzeni District Municipality, and are all located in and surrounding the town of Lydenburg, Mpumalanga Province.

Due to the recent rains all three the development areas are covered in dense vegetation. This hindered free movement and also minimised visibility of the ground surface. In some cases small sections of the properties could not be accessed due to dense bush and shrubs. The potential impact of the overgrowth on the survey results is discussed in **Section 3.4** below.

2.1 Morning Tide Development Complex

The Morning Tide Development Complex comprises the remainder of portion 7 of the farm Rooidraai 34-JT. It is approximately 150 hectares in extent and located to the south of Lydenburg. The development consists of residential, light industrial, and commercial land use options.

The development area consists of open landscapes with very little trees evident. It is situated on a watershed and lies between the Doringberg Stream and the Dorps River. While sections of the development area can be described as undulating, other sections are more level or gently sloped.

Disturbances to the physical landscape include the tarred and gravel roads, as well as a number of farm roads. Small sections of the property also show evidence for past quarrying and/or prospecting activities.



Plate 1 General view of the Morning Tide Development Complex's central portion



Plate 2 This undulating landscape is characteristic of the Morning Tide Development Complex's western section.

2.2 Morning Tide Power Line

The development consists of a 4 kilometre power line development. The power line is to be a 22 kV Overhead Line.

Although the exact property description for the proposed power line development is not presently known, the 2530AB 1:50 000 map titles the land over which it passes as the "Lydenburg Nature Reserve". As such, it is mostly situated in areas to the west of Lydenburg.

The power line crosses over various different topographical landscapes, including level and sloped areas. A section of it also passes over residential areas. These residential areas are not indicated on the most recent edition of the 2530AB 1:50 000 topographical sheet and therefore appear to be more recent extensions to the Marambane settlement.

Disturbances to the physical landscape include farm roads as well as the extensions to the Marambane settlement alluded to above.

2.3 Abrina Residential Development

The Abrina Residential Development comprises portion 121 of the farm Sterkspruit 33-JT. It is approximately 35 hectares in extent and located east of Lydenburg. The property is earmarked for residential development.

The development area has at its northern boundary the Gustav Klingbeil Nature Reserve, while its southern boundary is formed by the provincial road between Lydenburg and Sabie, known as the R-37.

In a topographical sense it consists of level and sloped areas. Disturbances to the physical landscape include farm roads as well as a recently built farmhouse and associated outbuildings.



Plate 3 General view of the Morning Tide Power Line development area.



Plate 4 View of a section of Marambane across which the proposed power line is to pass.

3. METHODOLOGY

The methodological approach used for the study is aimed at meeting the requirements of the relevant heritage legislation. As such a desktop study was undertaken followed by a survey of the impact areas. Informal discussions also took place with a number of individuals.

In an undated draft document titled "*Minimum standards for the archaeological and palaeontological components of impact assessment reports*" issued by the South African Heritage Resources Agency (SAHRA) during the end of 2005, the following heritage components are to be included in heritage impact assessments:

- Archaeology
- Shipwrecks
- Battlefields
- Graves
- Structures over 60 years
- Living heritage
- Historical settlements
- Landscapes
- Geological sites
- Palaeontological sites and objects.

All these heritage components have been addressed in this report, with the exception of shipwrecks, geological sites as well as palaeontological sites and objects.

3.1 Desktop Study

The primary aim of the desktop study is to compile as much available information as possible on the heritage resources of the area. Such a study also helps in providing historical context for any sites that are located.

The desktop investigation focussed on the study of published and unpublished source material, archival records as well as historical and archival maps.

Material from the following institutions was studied:

- South African National Archives, Pretoria
- Muckleneuk Library, University of South Africa, Pretoria
- Directorate: Surveys and Mapping, Cape Town

3.2 Field Survey

The field survey took place on Monday, 3 April 2006; Tuesday, 4 April 2006; Friday, 14 April 2006 as well as Saturday, 15 April 2006.

All located sites were briefly documented. This documentation includes photographs (where possible) and descriptions as to the nature and condition of the located material. A hand-held Global Positioning System was used to obtain site coordinates.

The located sites were also given unique individual numbers, depending upon which development area they were found on. All sites located on the farm Rooidraai (Morning Tide Development Complex sites) were given the numbers RDR 1 to RDR 13. The sites found along the Morning Tide Power Line were given the numbers MTPL 1 to MTPL 6, whereas the sites from the Abriña Residential Development were numbered from ARD 1 to ARD 4.

3.3 Consulting with Local Interested and/or Affected Parties

Informal discussions were held with a number of local residents met during the survey. These include:

- Klaas Ramodise
- Fanie Hlatshwayo
- Thomas Mkondo
- Petros Mnisi

Discussions also took place with specialists and other knowledgeable persons. These individuals were:

- Fanus Potgieter
- Corine Meyer

Land owners were also communicated with. The following landowners were spoken to:

- Koos Roets

As required by EIA Regulations 22, 23 and 26 the Environmental Conservation Act 73 of 1989, a public participation process for the proposed development has been undertaken.

3.4 Aspects regarding Visibility and Constraints

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is important to realise that the heritage resources located during the fieldwork do not necessarily represent all the heritage resources located there. This may be due to various reasons, including the subterranean nature of some archaeological sites and dense vegetation cover. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way. This means that should such features or objects be exposed during any of the proposed activities, development activities must immediately stop in that area.

Similarly, should any graves or cemeteries be observed, located or exposed, all activities in the vicinity of the located features must immediately stop. A heritage specialist must also immediately be contacted, and who after assessing the site would in consultation with the South African Heritage Resources Agency be able to make recommendations on the way to proceed.

4. FINDINGS

4.1 Desktop Study Findings

4.1.1 Cartographic findings

The study of historic and archival maps represents a valuable tool in the identification of heritage sites within a defined area. The primary source for maps used in this study was the cartographic section of the National Archives in Pretoria. Maps housed at the Directorate of Surveys and Mapping in Cape Town was also studied. Only one map of relevance for the study area was located. Depictions of this map are included in the report and a short overview on each is made.

4.1.1.1 Major Jackson Series Sheet 10 "LYDENBURG"

4.1.1.1.1 The Morning Tide Development Areas

Figure 1 depicts the sheet titled LYDENBURG (National Archives, Maps, 3/571) of the Major Jackson Map Series compiled by the Field Intelligence Department during the Anglo Boer War (1899-1902). The sheet is the Second Revised Edition and dates from November 1901.

Features indicated within the proposed development areas of the Morning Tide Development Complex as well as the Morning Tide Power Line, include the following:

- A British military position titled "Montreal Post" (marked with white arrow)
- The old wagon road from Machadodorp (marked in red)
- A smaller track/footpath/bridle path (marked in blue)
- The old wagon road from Spitzkop/Dullstroom (marked in green)
- Old wagon road from unknown origin (marked in gold)
- British fort titled "Fort Howard" (marked with purple arrow)

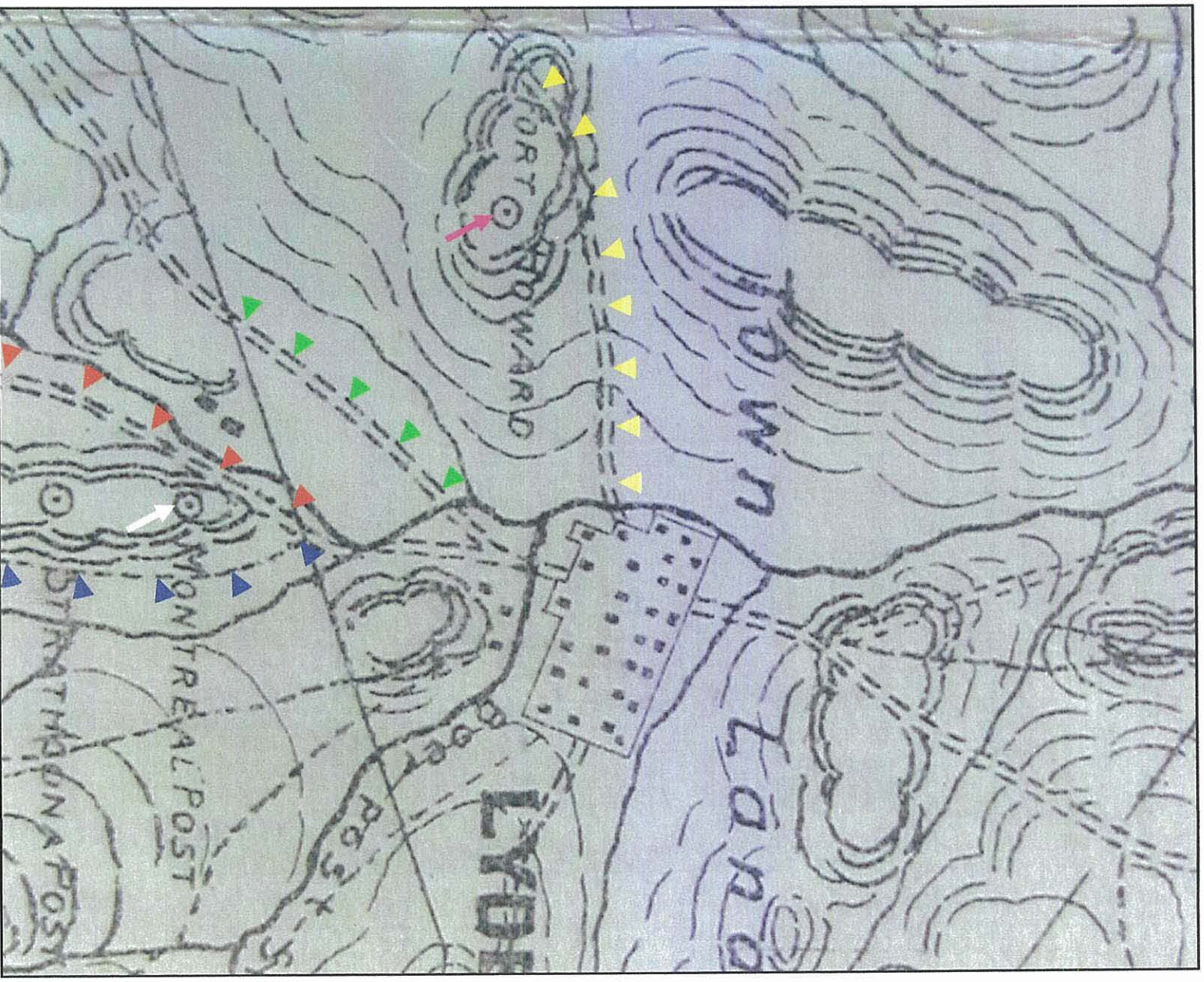


Figure 1

Sheet 10 "LYDENBURG" of the Major Jackson Series

4.1.1.1.2 Abrina Residential Development

Figure 2 also depicts the sheet titled LYDENBURG (National Archives, Maps, 3/571) of the Major Jackson Map Series compiled by the Field Intelligence Department during the Anglo Boer War (1899-1902). The sheet is the Second Revised Edition and dates from November 1901.

Features indicated within (or directly adjacent to) the proposed Abrina residential development area includes the following:

- The old road between Lydenburg and Sabie (marked in red)

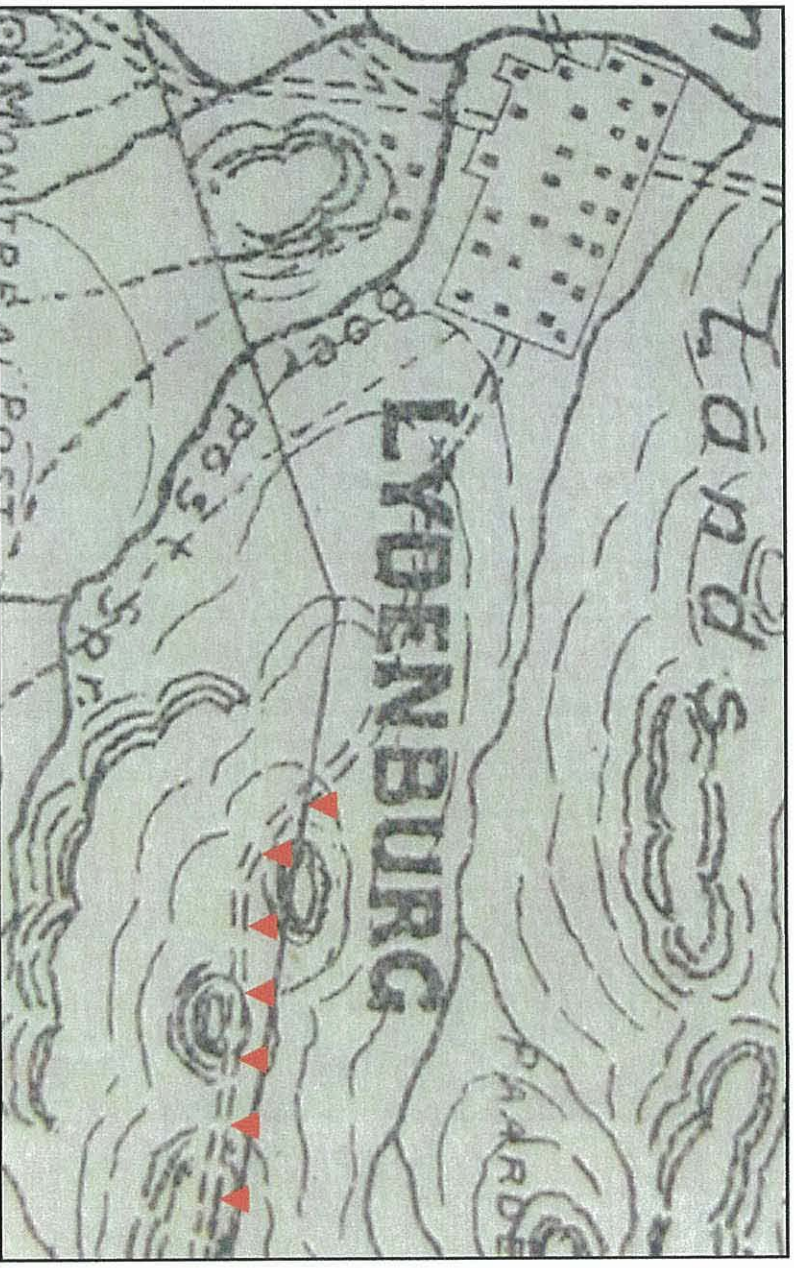


Figure 2 Another depiction of Sheet 10 "LYDENBURG" of the Major Jackson Series

4.1.2 Archaeological and Historical Background

4.1.2.1 The Iron Age

The area within and surrounding the town of Lydenburg is well known in the archaeological community for its Early and Late Iron Age sites (refer **Figure 7** below).

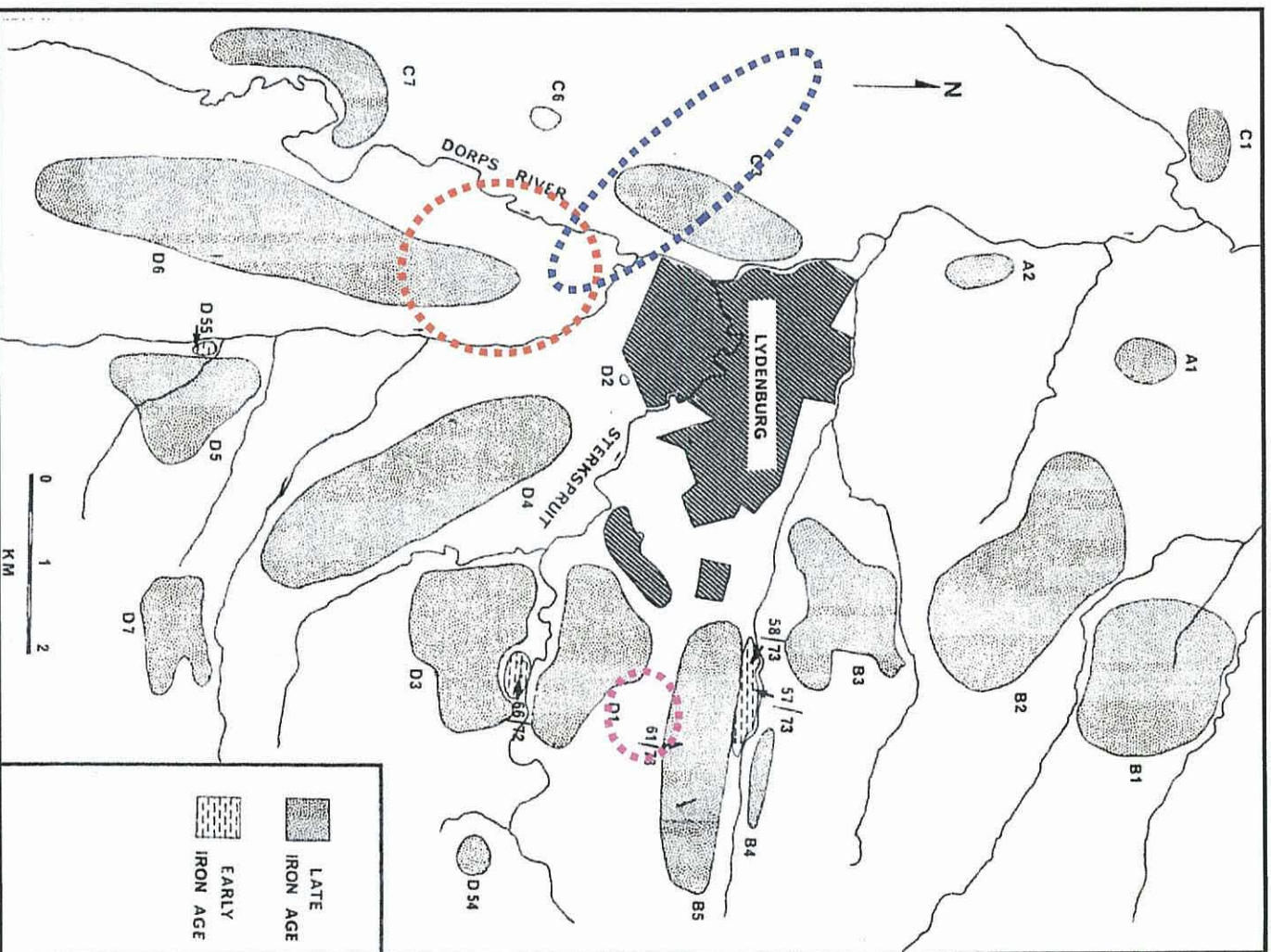


Figure 3

Map showing the Early and Late Iron Age sites in the vicinity of Lydenburg as it was known at the time (Evers, 1975:77). The approximate positions of the Morning Tide Development Complex (red), Morning Tide Power Line (blue) as well as the Abrina Residential Development (purple) are shown.

4.1.2.2.1 Early Iron Age

4.1.2.2.1.1 Overview of the Early Iron Age in Lydenburg and surrounding area

The first Early Iron Age site to be discovered in the vicinity of Lydenburg is possibly also its best known one. The so-called Lydenburg Heads site (Sterkspruit 66/72) is located on the southern bank of the Sterkspruit River, and has been dated to the fifth century A.D. (Evers, 1975). Since the discovery of the site by L. von Bezinger in 1962, a number of other Early Iron Age sites have also been discovered in the area. In a paper published in the *South African Archaeological Bulletin*, Marker & Evers (1976) indicate the known existence of five Early Iron Age sites. They summarise the results of the research undertaken by Evers and indicate that these sites are on average 6 hectares in extent. They also show that typical features found on these sites include huts, pits and furnaces used for metal working. Excavated artefacts include ceramic vessels decorated with impressions and broadline incisions, copper and iron beads, various bone and shell ornaments and tools as well as grinding stones.

Although no direct evidence for agricultural activities during the Early Iron Age in the Lydenburg area was found, the presence of grinding stones suggests the existence of these activities at the time. As can be seen below, direct evidence for herding practices was found in the form of domesticated animal teeth (Evers & Marker, 1976).

4.1.2.2.1.2 The proposed developments and the Early Iron Age

A study of the available published data on the Early Iron Age in and surrounding Lydenburg (Evers, 1975; Marker & Evers, 1976; Evers, 1980; Evers, 1981; Evers, 1982 & Whitelaw, 1996) has revealed that while no known Early Iron Age sites are shown on or in the direct vicinity of the Morning Tide Development Complex as well as its associated Power Line Development, two Early Iron Age sites are located in the vicinity and to the north (and north-west) of the Abrina Residential Development.

These two sites are Klingbeil 2530 AB1 (old site number 57/73) and Klingbeil 2530 AB2 (comprised of two sites numbered 58/73 and 59/73). They are both located within the Gustav Klingbeil Nature Reserve, and are situated on the southern bank and valley slope of the Krugerskloof stream. Excavations undertaken by T.M. Evers at these sites have revealed features such as pits as well as artefacts and ecofacts such as decorated ceramic vessels and teeth from domesticated animals (i.e. cattle & goats/sheep) (Evers,

1980). Charcoal excavated from two pits at site 2530 AB1 has resulted in the calculation of a weighted average date of 1065 ± 50 B.P. (A.D. 885).

It is important to note that both these sites were originally covered by colluvium of between 0.5 m and 1 m in depth, and were only discovered after construction activities took place. The fact that these early sites were hidden from view before construction work started there, has a definite influence on the mitigation measures recommended for the site as a whole (refer Section 6).

4.1.2.2.2 Late Iron Age

4.1.2.2.2.1 Overview of the Late Iron Age in Lydenburg and surrounding area

Numerous Late Iron Age sites are known for the areas from within and surrounding Lydenburg. Research undertaken by scholars such as Evers (1975) and Marker & Evers (1976) in the Lydenburg area and Collett (1979; 1982) in the Badfontein Valley have revealed the existence of extensive settlements comprised of terracing, cattle tracks and areas with concentrated enclosures. The last mentioned features consisting of an area in which a number of stone walled enclosures and walling are found, have been referred to as cultural units (Evers, 1976), ruins (Collett, 1982) and homesteads (Evers, 1981). The term "enclosure unit" will be used in this report.

In general terms two broad types of enclosure units have been found and recorded during various research projects. Collett describes these two types as simple ruins and complex ruins, with the first being isolated circular enclosures and the latter defined as "...two or more contiguous circular or sub-circular enclosures." (Collett, 1982:34). Marker and Evans (1976) have identified three enclosure unit types. The first consists of two concentric circles, in which the inner enclosure would most likely have been the cattle kraal and the area between the inner and outer walling used for the building of huts. The second type identified by Marker & Evers also has an outer wall, but instead of a single smaller enclosure within its centre the enclosure units from this type has in its central part a "...complex of enclosures, generally consisting of a large central one with two opposed entrances and a number of circles around part of, or the whole of, the perimeter" (Marker & Evers, 1976:161). The suggestion made is that the huts would have been built between the enclosing wall and this central complex of enclosures. The third type identified by them consists of a concentration of small enclosures which does not appear to conform to the layout pattern of the first two types.

Excavations at a Late Iron Age site in the Gustav Klingbeil Reserve (Old number 61/73; later Klingbeil 2530 AB:3) have revealed a complete hut floor as well as the courtyard and verandah of a second hut. The hut floor consisted of a layer of gravel on top of which a layer of flat stones were placed. The stones were covered in clay. The remains of a verandah with clay flooring and a clay bench were excavated on that side of the hut which faced down slope and toward the central livestock enclosures. The walls of the hut were built of closely positioned poles, while the inner and outer walls were plastered with clay.

A charred post excavated from the courtyard of a hut at Klingbeil 2540 AB:3 has been radiocarbon dated to 130 ± 40 B.P (Evers & Vogel, 1980). The calibrated dating of the site has been suggested as between A.D. 1640 and A.D. 1820 (Evers, 1981).

The numerous stone walled enclosures and cattle tracks found at many of these sites indicate the significance of herding activities, and direct evidence in the form of the cattle as well as goat/sheep teeth have been found. Agricultural activities in turn are indicated by the location of numerous grinding stones as well as terracing used for levelling sloped areas for use as agricultural fields (Marker & Evers, 1976).

The Late Iron Age excavations have also revealed decorated and undecorated ceramic fragments and vessels. Evers (1981:98) indicates that the research undertaken essentially by him and D.P. Collett have revealed that the stone walled sites from the Lydenburg district "...*belong to a single ceramic phase which Collett has called Marateng*". He also points to the strong association in terms of settlement layout as well as ceramic decoration with the Pedi.

More recently, however, it has been suggested that all Late Iron Age sites from Lydenburg can not always be associated with the Pedi alone, and that some of these can be associated with the group named Koni as well. The ethnographic data recorded by Mönning (1978) show that the area associated with the Pedi and as such described as the land of the Pedi (Bopedi), was first settled by other groups such as Kwena, Roka and Koni. The research undertaken by Prof. B.V. Lombard has also shown a strong association of the area lying between Lydenburg and Machadodorp with the Koni (The Lydenburg News, 12 November 1976).

An interesting feature of the Late Iron Age of the Lydenburg area is the existence of rock engravings, of which many depict stone walled settlement layout plans. Some of the best examples of these engravings can be found on the farm Boomplaas, north-west of

Lydenburg. Late Iron Age rock engravings depicting settlement patterns has been known for a reasonably long period of time, and a number of different papers have appeared on the subject (Pyper, 1915; Van Hoepen, 1939; Malan, 1955; Maggs, 1995 and Maggs & Ward, 1995). The article of Tim Maggs which appeared in the *South African Archaeological Bulletin* in 1995 provides a good overview of the state of research in terms of what he refers to as Southern Africa's "neglected rock art". He also provides a summary of all known Late Iron Age rock art sites, and indicates them to be located in areas a far apart as Mpumalanga, North West Province, Northern Cape and KwaZulu-Natal.

4.1.2.2.2 The proposed developments and the Late Iron Age

The available published data on the Late Iron Age of Lydenburg and surrounds (Collett, 1979, 1982; Evers, 1975, 1981; Marker & Evers, 1976) indicate the wide distribution of these sites. From the map depicted in Figure 3 it is evident that all three development areas are associated with known Late Iron Age sites. It is therefore not surprising that the surveys undertaken in these areas have revealed numerous Late Iron Age stone wall settlements, containing simple and complex enclosure units. Two Late Iron Age rock art sites were also discovered.

4.1.2.3 Historic Period

4.1.2.3.1 The establishment of Lydenburg

In an effort to get further away from British influence, and at the same time closer to the market at Delagoa Bay, the voortrekker leader Andries Hendrik Potgieter (together with a large following) moved from areas only recently established after the Great Trek (i.e. Potchefstroom, Pretoria and the Magaliesberg) to the vicinity of Ohrigstad (Botha, 1958). With time, increasing numbers of voortrekkers followed him there and settled in the area. After the establishment of the town, three main factors led to its decline. First of these was the discord which erupted between Potgieter (and his followers) and the *Volksraad*. In the end Potgieter, with his followers, moved to the Soutpansberg. The second factor was that the promise of good trade relations with the Portuguese (and Dutch) via Delagoa Bay proved unsuccessful. The third factor was the negative impact of malaria. Especially during the summer of 1848 to 1849 many residents became ill and many died. This decline of Ohrigstad resulted in a strong need expressed by the community for the establishment of another town in the general vicinity but in a healthier climate. The *Volksraad* subsequently held a meeting at Krugerspos on 19 September 1849. During the

meeting the decision was made that a new town was to be established and on 20 September 1849 agreement was reached that the new town was to be called "Leidenburg" in reference to the suffering caused by malaria. On 23 January 1850 the *Volksraad* in Potchefstroom decided that the new town was to be established on the farm Rietspruit, and by May 1850 the town was so far established that it was possible for the *Volksraad* to have its first assembly there (Botha, 1958).

On 17 December 1856 the Lydenburg district was proclaimed as an independent state, namely the Republic of Lydenburg (Duvenage, 1966).

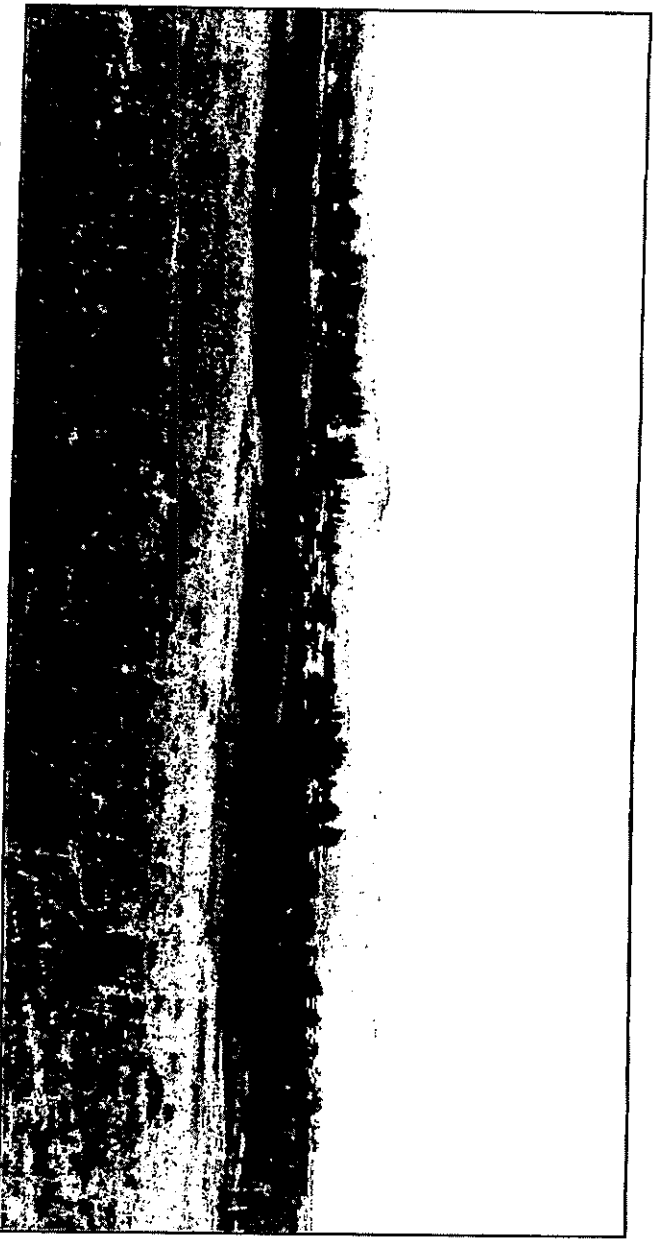


Figure 4 Early photograph of Lydenburg (National Archives, TAB, 31807).

4.1.2.3.2 Anglo-Boer War (1899-1902)

As mentioned above, features associated with the Anglo-Boer War history of the area is indicated either within or in the direct vicinity of all three the proposed development areas. As a result, some background information on this period of the area's historic past will be provided.

4.1.2.3.2.1 The British occupation of Lydenburg

On the 6th of September 1900, the town of Lydenburg surrendered to the British forces under Sir Redvers Buller and Ian Hamilton. Two days later, on the 8th of September 1900, a battle was fought at Paardeplaats. This battle was essentially for control of the strategically located mountain overlooking the town, namely Mauchsberg (Doyle, 1902).

The town was occupied for the duration of the war, and after the cessation of hostilities in 1902 the South African Constabulary (S.A.C.) still had a distinct presence in the town and vicinity.



Figure 5 British cavalry in Lydenburg (National Archives, TAB, 26453).

One of the best sources from British side in terms of the occupation of Lydenburg, is the diary of E.A. Mackey. Although the diary itself could not be located, excerpts from it were published in the *Lydenburg News* during September and October 1948. These published excerpts from the diary of Mackey appeared under the heading *A Gentleman's War*. Although not as detailed, another work which shows some insight into the experiences of the men occupying Lydenburg, is Gordon-Duff's *With the Gordon Highlanders to the Boer War and Beyond* which contains the letters written by Captain Lachlan Gordon-Duff.

The descriptions of both these authors in terms of the occupation of Lydenburg leave one with the feeling that the town was almost in a position of siege. The description of the town made by Mackey (*Lydenburg News*, September 3, 1948: 1 & 2) certainly supports this suggestion "... (*Lydenburg*) was now surrounded with barbed wire with forts and gun emplacements at every corner. The streets were crowded; every house and building was bursting with soldiers, equipment and stores; the market and church squares and other open spaces were covered with tents."

Although the Boer commandoes did not have the men or resources at the time to physically surround the town and place it under siege, they made continuous attacks on military outposts, convoys and patrols.



Figure 6 Members of the Lydenburg Commando (National Archives, TAB, 23321).

4.1.2.3.2.2 The road between Machadodorp and Lydenburg

Lydenburg was situated approximately 50 miles north of the railway line at Machadodorp. As a result all stores, equipment and ammunition had to be transported from the Machadodorp station by road to Lydenburg. This made the road link between Lydenburg and Machadodorp of crucial strategic importance to the British occupation force in Lydenburg. As a way of protecting the road, various forts were built along it. While Mackey indicates that four forts were established, Doyle (1902) lists a total of seven forts. Nonetheless, both authors concur that these forts were placed roughly ten miles apart.

Mackey (n.d.) describes the four forts as Helvetia (the fort closest to Machadodorp), Schoeman's Kloof, Badfontein and Witklip. Of these, the fort at Witklip would be the

closest to the present developments. However, the farm Witklip is still some distance to the south.

The journey between Machadodorp and Lydenburg took between two and three days by oxwagon, and no-one was allowed to travel this road without an armed escort. Such military escorts mostly consisted of a dozen mounted men. Senior military officers who travelled along the road had their own personal escorts of about 20 men (Mackey, n.d.).

Although these protective measures were enforced to protect supplies and men, the Boer Commandoes often attacked the convoys and sometimes the forts as well. One of the best sources from Boer side which describe some of these activities is the diary of F.L. Rothmann that was published by M.E.R. under the title *Oorlogsdagboek*. The diary describes the experiences of the Boer commandoes in the areas surrounding Lydenburg, and contains various descriptions of the convoys between Machadodorp and Lydenburg as well as the ambushes and attacks undertaken by the Boer commandoes on these convoys. Apart from disrupting the British lines of communication and supply, the diary makes it evident that at least some of the attacks on convoys were aimed at capturing horses (M.E.R., 1947), which of course was an essential part of the mobile warfare practiced by the Boers.

4.1.2.3.2.3 The military posts surrounding Lydenburg

Although none of the forts which guarded the Machadorp-Lydenburg road and described in the diary of E.A. Mackey are located close to the study area, the archival map depictions in **Figures 1 and 2** indicate the existence of a military post (Montreal Post) within the Morning Tide development area and a second post (Strathcona Post) close to it. The names of these two military posts have a strong association with Canada. While the association with Montreal is evident, the name Strathcona needs explanation. It appears to have been derived from the Strathcona's Horse, a regiment raised and paid for by the Canadian high commissioner, the Right Honorable Baron Strathcona and Mount Royal of Lochnell Castle of the United Kingdom, Donald Smith. Although the Strathcona's Horse was officially viewed by Britain as separate from the other Canadian regiments, it was "...*Canadian in practice, if not in theory.*" (Reid, 1996:38).

A fortification titled Fort Howard is shown in the vicinity, but to the west of where the Morning Tide Power Line is proposed to be developed.

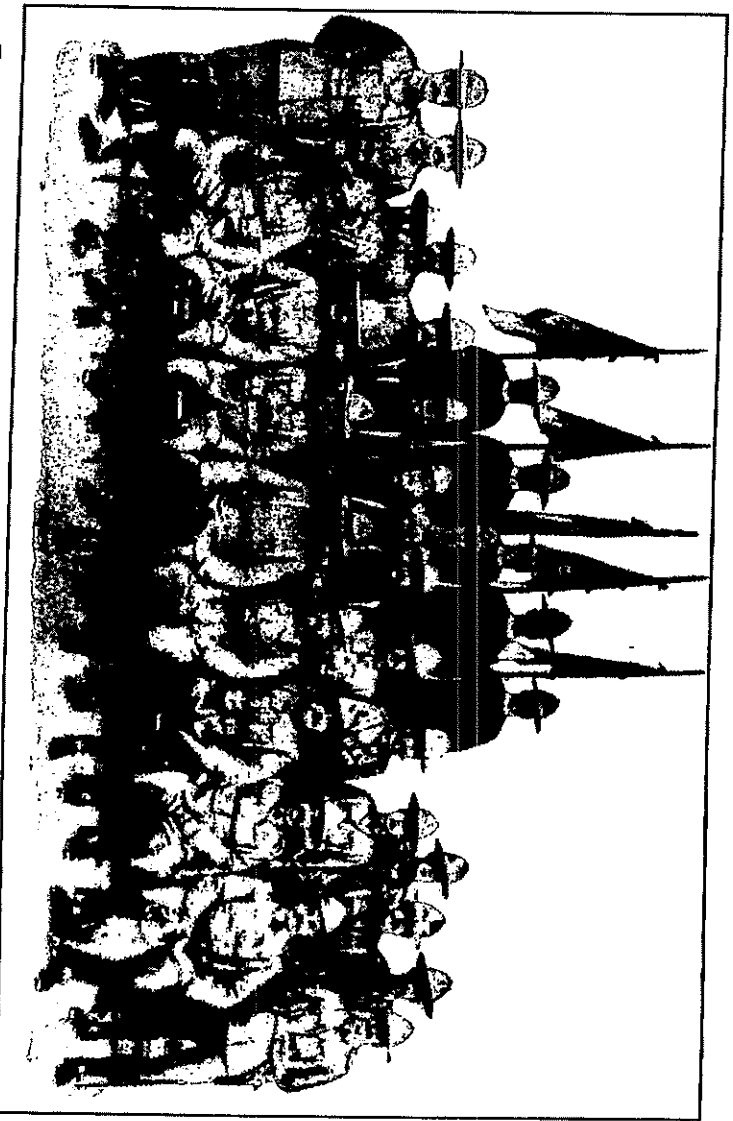


Figure 7 Officers of Strathcona's Horse, the members of which were known as "The Queen's Cowboys" (Miller, 1993).

During discussions held with a local amateur military historian, Mr Fanus Potgieter, it was indicated that the remains of rectangular structures associated with military artefacts such as stirrups, buttons and ammunition have been found on a portion of the farm Rooidraai located directly to the south and outside of the Morning Tide Development Complex area. The position of this site conforms to the position indicated for the Strathcona Post (refer Figure 1).

4.1.3 Early farm ownership

4.1.3.1 Rooidraai

The farm Rooidraai (old number 1242, present number 34-JT) was first inspected on 1 April 1857 by J.M. de Beer. On 1 February 1872 it was transferred through government "grondbrief" to Charel Johannes Viljoen & Son.

On 30 August 1859 the eastern half of the farm (titled Portion A) was transferred from Charel Johannes Viljoen & Son to Gideon Petrus Viljoen. The same portion was again transferred on 5 August 1872 from Gideon Petrus Viljoen to Stephannus Johannes Schoeman & Son.

On 24 July 1874 a portion of portion A (titled Portion A1) was transferred from Stephanus Johannes Schoeman & Son to Jan Ruiter. On the same day the portion was transferred from Jan Ruiter to Johannes Stephanus Lombard.



Figure 8 One of the early owners of the a portion of the farm Rooidraai, Johannes Stephanus Lombard (Lydenburg News, 4 March 1977).

4.1.3.2 Sterkspruit

The farm Sterkspruit (old number 159, present number 33-JT) was first inspected on 7 April 1857 by J.M. de Beer. On 22 February 1869 it was transferred through government "grondbrief" to Johannes Matthijs de Beer.

4.2 Survey Findings – Morning Tide Development Complex

The foot surveys resulted in the identification of thirteen heritage sites in this development area. Eleven of these can be positively associated with the Late Iron Age. Settlements associated with this period from the surrounding area are known to be very large, and contains enclosure units, terracing and cattle tracks (Evers, 1975; 1980). Although it is quite likely that all of the Iron Age sites from the study area are associated with one large settlement (see **RDR 1**), a number of stonewall enclosures were located some distance away from the main settlement area without any terracing or other walling linking them to it. As a result, they have been discussed as individual sites.

4.2.1 RDR 1

4.2.1.1 Site Coordinates and Description

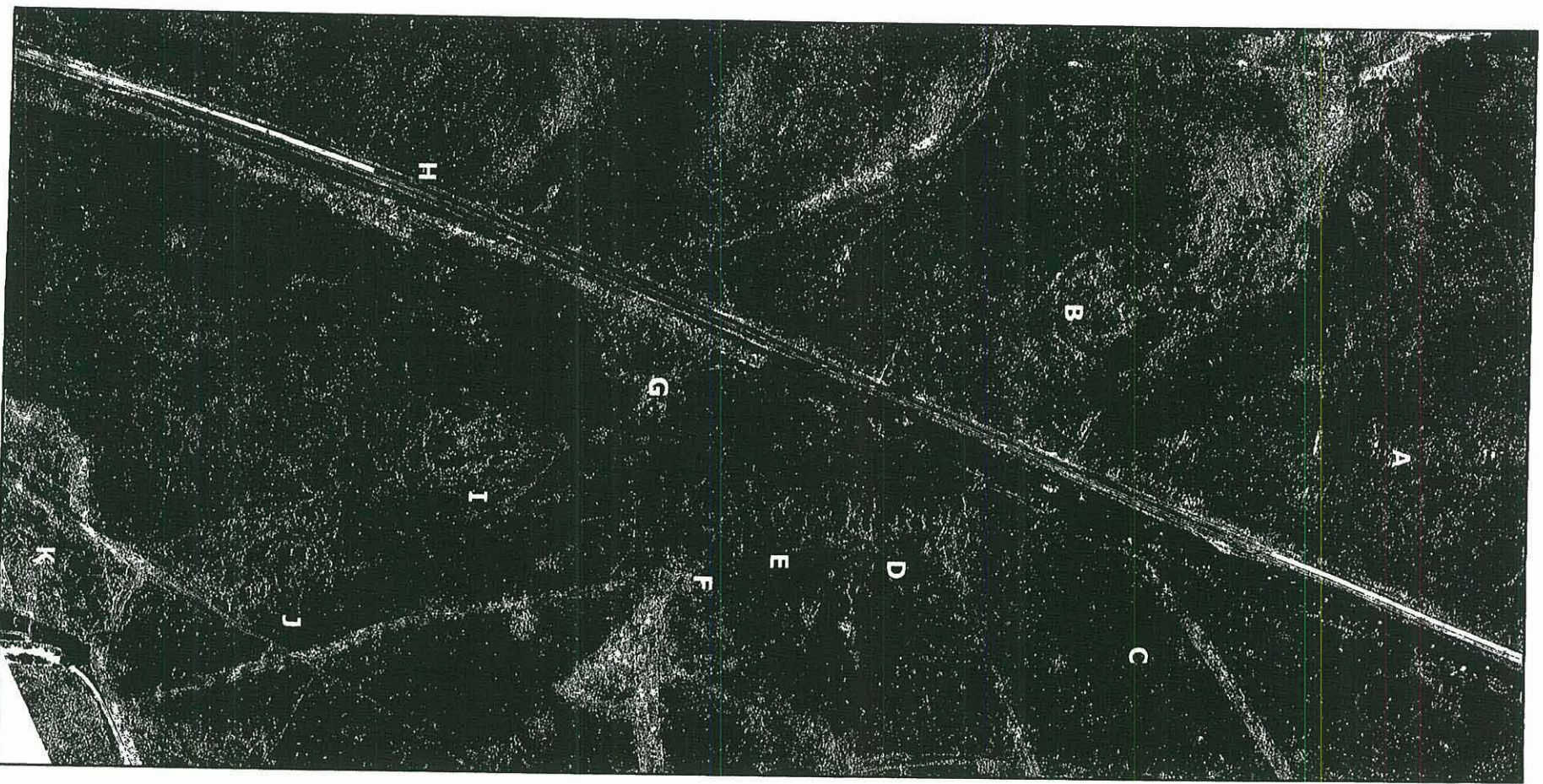
Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

The site consists of a Late Iron Age settlement which extends over a very large area and is situated on both sides of the provincial road between Machadodorp and Lydenburg. It is comprised of reasonably well preserved stone wall enclosures, terrace walling and cattle tracks. At least eleven individual enclosure units were identified in the settlement. For the aims of this report these enclosure units have been numbered A through to K. *(11 sites)*

The site is similar to the extensive stone walled Late Iron Age settlements located and excavated by Evers (1975) and Marker & Evers (1976) in the Lydenburg area and Collett (1979, 1982) in the Badfontein Valley.

Although dense vegetation growth hampers accurate assessment of many of the structures, the largest majority (if not all) of the enclosure units from the settlement can be described as being of the more complex kind, and appear to conform with the Type 2 as defined by Marker & Evers (1976) and discussed under **Section 4.1.2.2.2.1.**



A U A E F H H
7/10/11

Figure 9 Recent aerial view of the Late Iron Age stone walled settlement demarcated for the purposes of this report as RDR 1.



Figure 10 Closer view of enclosure units D, E and F.

The overall preservation of the settlement is very good. However, sections of the site have been disturbed by the construction of farm and provincial roads (see **Figure 11**) While some of the walling has collapsed, others show evidence for past robbing practices whereby stones from the walls have been removed and used for the construction of new enclosures and more recently for erosion berms and drainage gullies.

Examples of the best preserved walling observed in the settlement are found at enclosure units E, F, G and I. At enclosure unit I, for example, many of the walls are in excess of 1.5 m in height.

In terms of artefacts, two grindstones were located at enclosure unit E while an undecorated ceramic fragment was observed at enclosure unit B. The lack of archaeological material can most likely be attributed to the dense vegetation cover found over most of the study area. This may also be the reason why no archaeological deposits were observed.

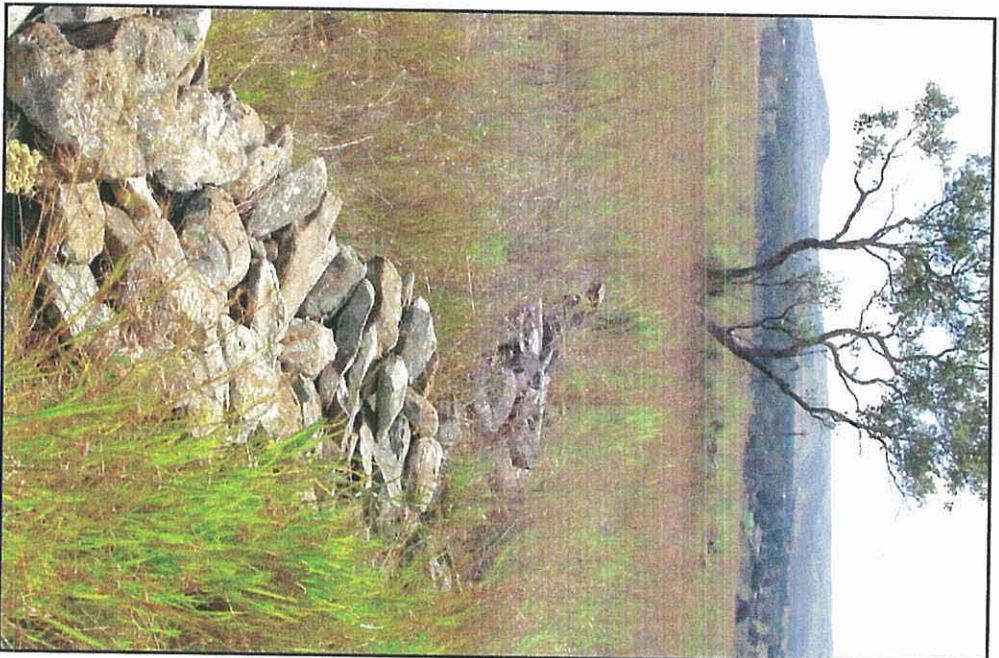


Plate 5 (left) Stone walling on the inside of enclosure unit E.

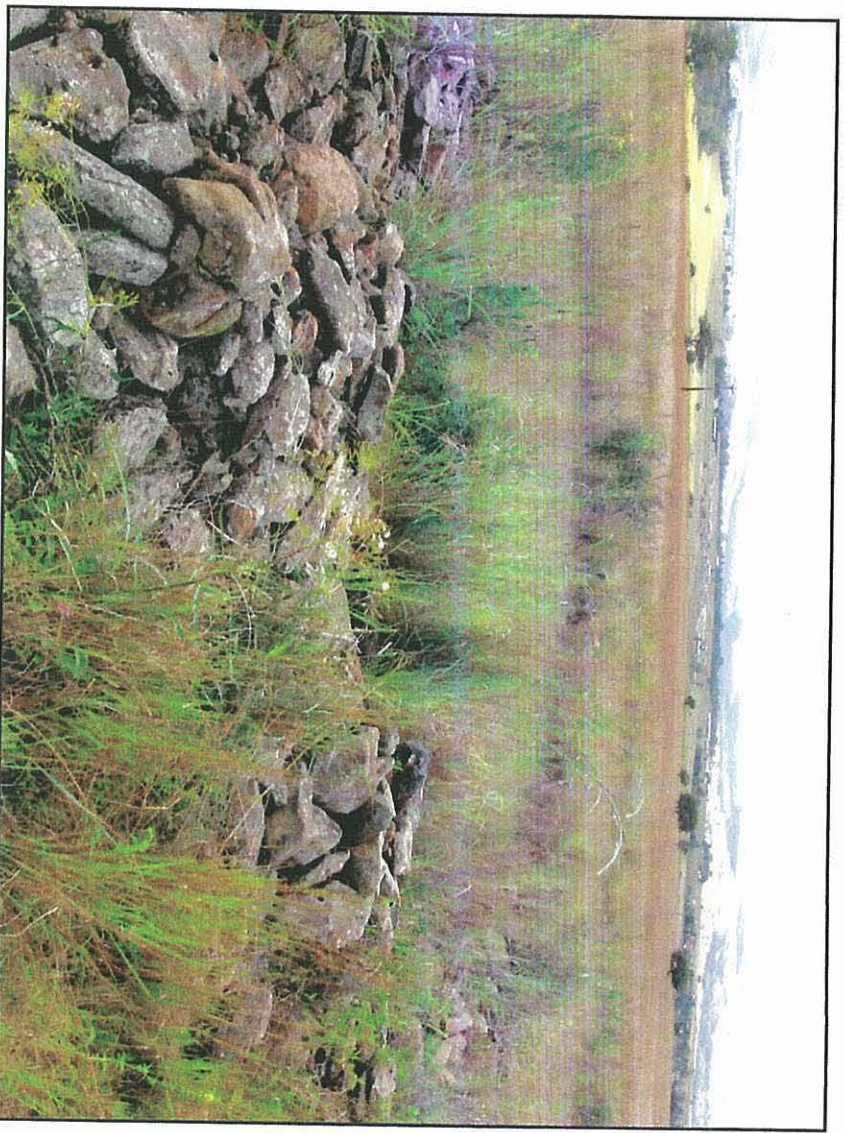


Plate 6 (below) One of the small stone walled circles at enclosure unit E.



Figure 11 Enclosure unit G. The provincial road between Machadodorp and Lydenburg cuts through the entire unit.

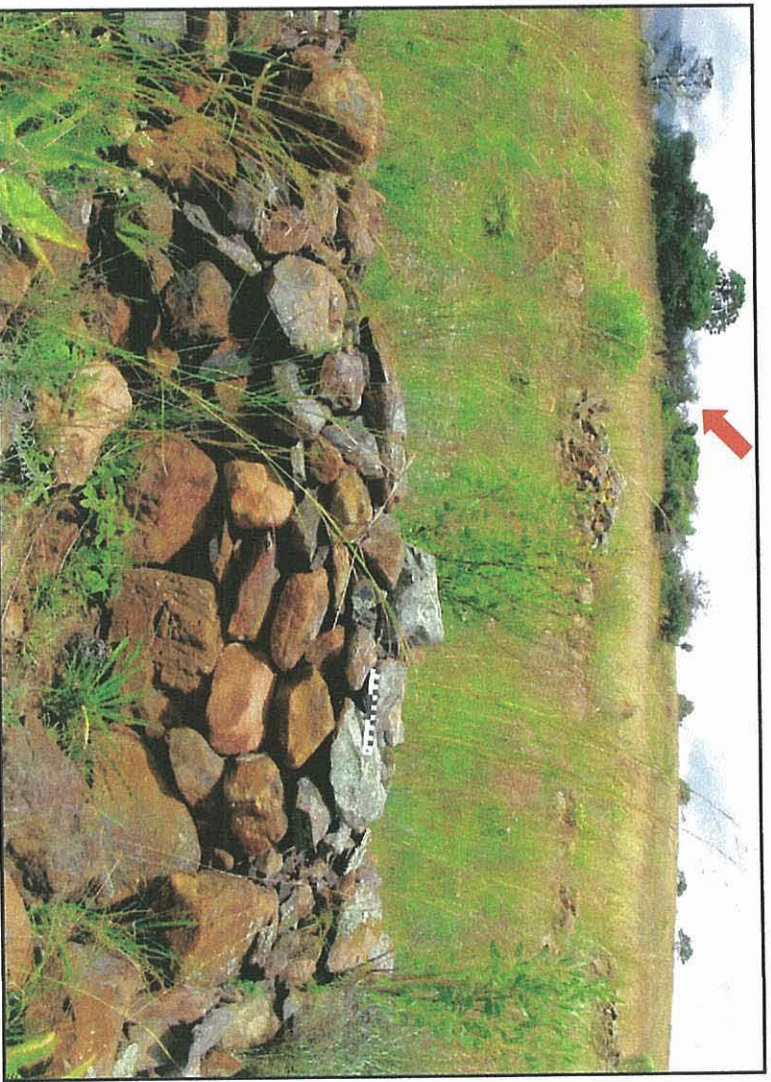


Plate 7 Inner (in front) and outer walling at enclosure unit G. The position of enclosure unit I is marked in red.

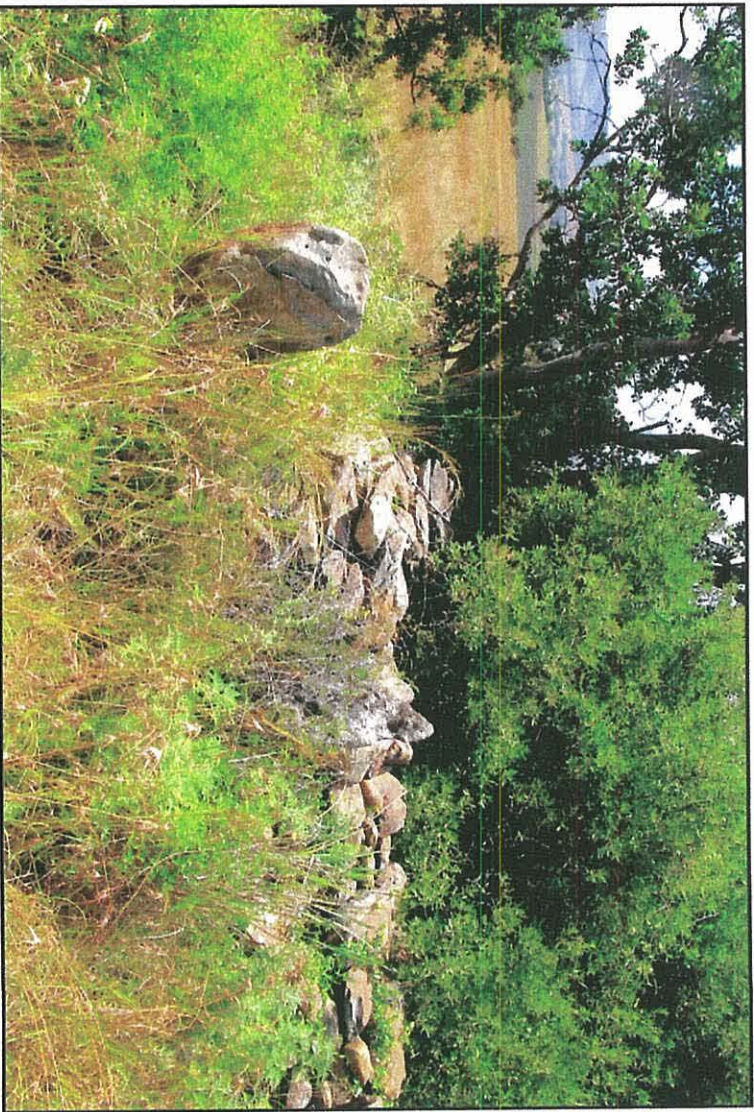


Plate 8 Well preserved walling on top of the ridge at enclosure unit I.



Plate 9 One of the lower grindstones observed at enclosure unit I.

Due to their strategic position three of the enclosure units from the settlement may also possess additional archaeological significance. As mentioned elsewhere, a British military position named Montreal Post, which dates from the Anglo-Boer War (1899-1902), is indicated by an archival map (refer **Figure 1**) to be located within the area demarcated in this report as RDR 1. These three enclosure units (A, B & I) are all located on top of (or directly associated with) spurs or ridges.

Although this still has to be confirmed through mitigation, the location of enclosure unit B corresponds best to the position marked on the old map. Furthermore, a small circular enclosure was observed on top of the spur. Although this feature may be associated with the nearby Iron Age walling, a possible military function can not be discarded.

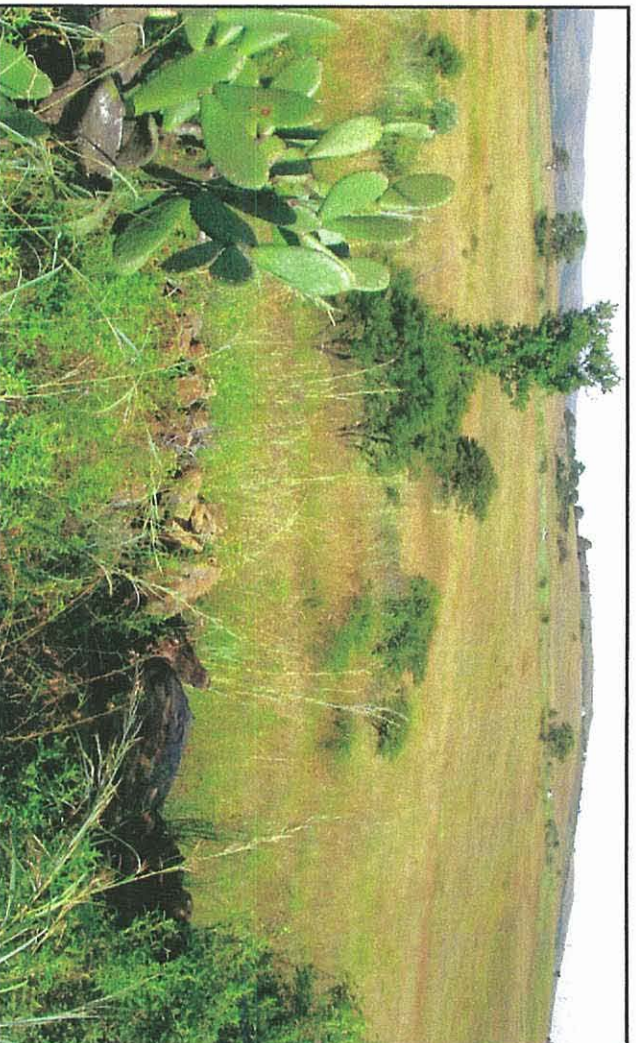


Plate 10 (above) The small stone circle from enclosure unit B is visible in the foreground.

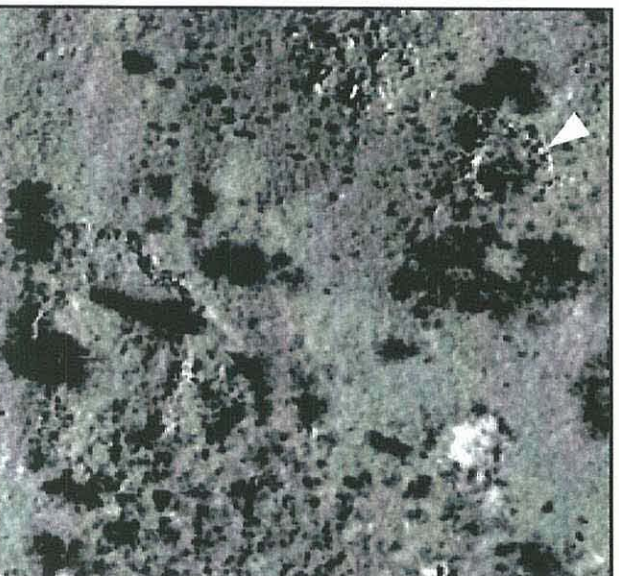


Figure 12 (left) The white arrow marks the position of the small feature.

4.2.1.2 Site Significance

A Late Iron Age site such as the one found at RDR 1 possesses high levels of historical and scientific significance. As a result, the Late Iron Age component of the site is classified as of **High Significance**.

Although the exact location for the Boer War military post is not known, a strong possibility exists for it to be located within the area demarcated as RDR 1. When found, such a feature has significant levels of emotional, historical and scientific significance. As a result, and depending of course on its condition, it could also be of **High Significance**.

4.2.1.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worst-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.1.4 Mitigation

The Late Iron Age settlement located at RDR 1 can not be considered as a unique archaeological feature of this area. As mentioned before, similar settlements have been located in the Badfontein Valley further south as well as the Klingbeil Nature Reserve a short distance to the north. Some of these sites have also been recorded and excavated.

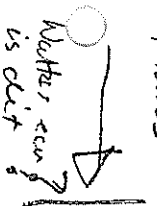
However, this certainly does not nullify the scientific and historic significance of the site, especially in the light of its extensiveness and good preservation.

Very little mitigation work can take place with the dense vegetation growth found over most of the site. Although vegetation clearing by hand is one solution to this problem, the size of the site would make such an option time consuming and expensive. As a result it is proposed that all mitigation work take place at the end of winter or at the latest during spring. Hopefully this would allow most of the vegetation to have cleared.

The following mitigation measures are required for the Late Iron Age at RDR 1: *What was delineated by the 1975 survey.*

- The entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks as well as artefacts and features such as lower grinding stones and monoliths.

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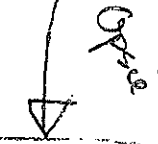


- With much of the vegetation cleared, all the enclosure units can be visited and comparatively assessed in terms of condition, research potential and the like. The results of the assessment would be twofold, namely to identify a well preserved enclosure unit that can be demarcated within a green open space and preserved *in situ*, and secondly to identify the enclosure unit(s) best suited for archaeological test excavations.
- The excavation of the identified enclosure units would be the next requirement. Ideally, excavation is aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating. The opening and recording of hut floors would also be positive.
- The results of the survey and excavation will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site, except for the enclosure unit which has been earmarked for protection. This application must be supported by the report.
- The sustainable preservation of the protected enclosure unit can only be attained through a management plan which would include monitoring.

The mitigation measures for the possible presence of the Montreal Military Post from the Anglo-Boer War in the study area are as follows:

- Consultation with local military enthusiasts and other knowledgeable individuals.
- Additional archival and desktop studies in an attempt to obtain further information regarding the military feature.
- During or after the winter months, a proper assessment of the possible localities for the military post can be made.
- Limited archaeological excavation may be required to prove the existence of the post in a certain locality.

Once the position of the military post has been confirmed within the development area, a meeting must take place between the developer, the heritage specialist and the South African Heritage Resources Agency. During these discussions the best of two possible outcomes must be decided upon, namely proper mitigation (archaeological excavation and recording) followed by destruction of the site or alternatively *in situ* preservation. Of course, should such a confirmed military post be located on or near a well preserved Iron Age enclosure unit, the protection of both features can be undertaken by demarcating a single green open space. This would minimise the impact of such a move on the overall planning of the development.



4.2.2 RDR 2 *The new bypassing of Kooridraai weavers are being 15.*

4.2.2.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

RDR 2 can be described as a Late Iron Age settlement consisting of four enclosure units. Although no continuous stonewalling, terracing or cattle tracks could be observed which directly linked this site with RDR 1, it is still very likely that both sites formed part of the same settlement. The site is located on a level area along both sides of the Weltevreden gravel road.

The site is similar to the stone walled Late Iron Age settlements located and excavated by Evers (1975) and Marker & Evers (1976) in the Lydenburg area and Collett (1979, 1982) in the Badfontein Valley.

The four enclosure units are numbered from A to D. While three of these features (A, B & C) appear to represent less complex units, the fourth can only be described as a complex unit similar to Type 2 of Marker & Evers (1976).

The condition of the stonewalled units varies from a relatively good state of preservation for enclosure units A and B, to units for which only the foundations of the walls could still be seen.

Although no archaeological artefacts were observed, this may very well be due to the dense vegetation found over large sections of the site.

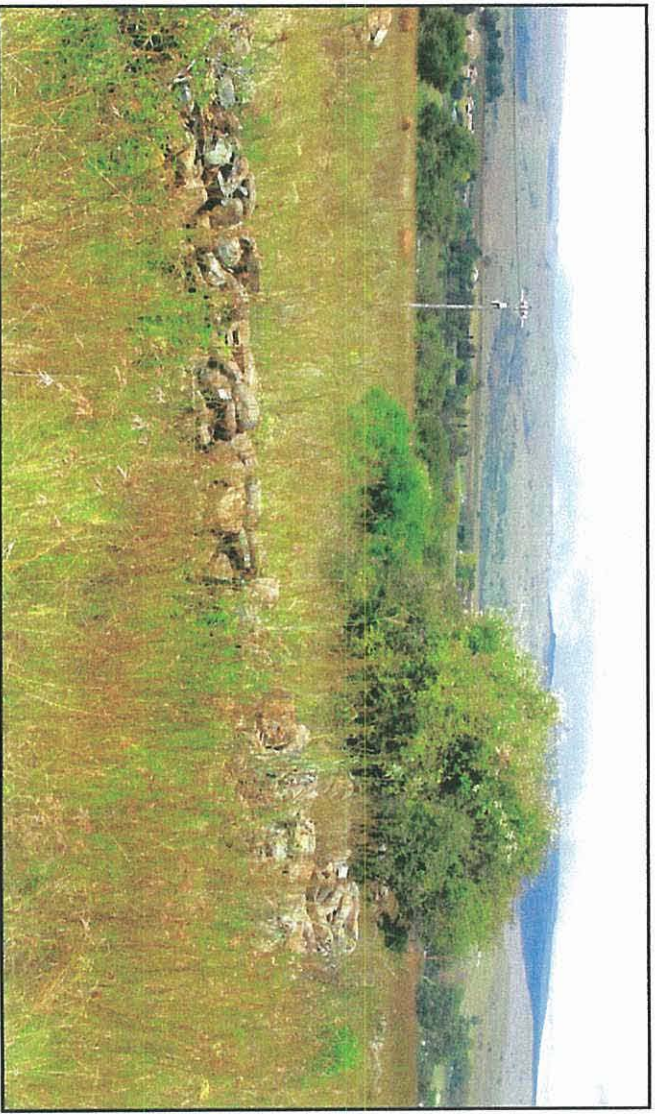


Plate 11 Stone walling at **RDR 2's** enclosure unit A.



Figure 13 Aerial photograph showing a section of site RDR 2.



Figure 14 Aerial view of RDR 2's enclosure unit D.

4.2.2.2 Site Significance

If compared to RDR 1, RDR 2's significance can only be considered to be less. However, as part of the layout of the Late Iron Age in the landscape, the site has significance. Due to the dense vegetation, the presence of archaeological deposits could not be established.

Based on the present information, the site is given a **Moderate to High Significance**. Should archaeological deposits be found here, the site's significance would increase.

4.2.2.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.1.4 Mitigation

The Late Iron Age settlement located at RDR 2 can not be considered as a unique archaeological feature of this area. As mentioned before, similar settlements have been located in the Badfontein Valley further south as well as the Klingbeil Nature Reserve a short distance north of the study area. Some of these sites have also been recorded and excavated.

However, this certainly does not nullify the scientific and historic significance of the site, especially in the light of its extensiveness and good preservation.

Very little mitigation work can take place with the dense vegetation found over most of the site. Although vegetation clearing by hand is one solution to this problem, the size of the site would make such an option time consuming and expensive. As a result it is proposed that all mitigation work take place at the end of winter or at the latest during spring. Hopefully this would allow most of the vegetation to have cleared.

The following mitigation measures are required for the Late Iron Age at RDR 1:

- The entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks as well as artefacts and features such as lower grinding stones and monoliths.
- With much of the vegetation cleared, all the enclosure units can be visited and comparatively assessed in terms of condition, research potential and the like. This can be used to identify enclosure units which are best suited for archaeological test excavation. Ideally, excavation is aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating. The opening and recording of hut floors would also be positive.
- The results of the survey and excavation will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

The results of archaeological test excavations from this site can be compared with excavations from RDR 1 to establish whether any differences occur and what the reason for the apparent geographical separation would be.

4.2.3 RDR 3

4.2.3.1 Site Coordinates and Description

Coordinates:

25.12363 S

30.45244 E

RDR 3 is located in the south-eastern corner of the development area. It is situated on the north-eastern end of a rocky outcrop and consists of a single engraved stone. The engraving portrays a stone walled settlement, and is associated with the Late Iron Age. Refer **Section 4.1.2.2.2.1** for more information on Late Iron Age rock engravings.

Although the condition of the engraved boulder itself is relatively good, quarrying activities have taken place on various areas of the rocky outcrop.

The closest Iron Age enclosure unit or settlement from this site is the one at RDR 4.

4.2.3.2 Site Significance

Even though Iron Age rock engravings can not be considered a unique feature of the Lydenburg heritage landscape, it is still of immense significance.

RDR 3 has **Very High Significance**.

4.2.3.3 Impact of the Proposed Development

As final and detailed development layout plans are not presently available, it is not presently certain whether the proposed development would directly impact on the site. The rock engraving is located close to the south-eastern boundary of the development.

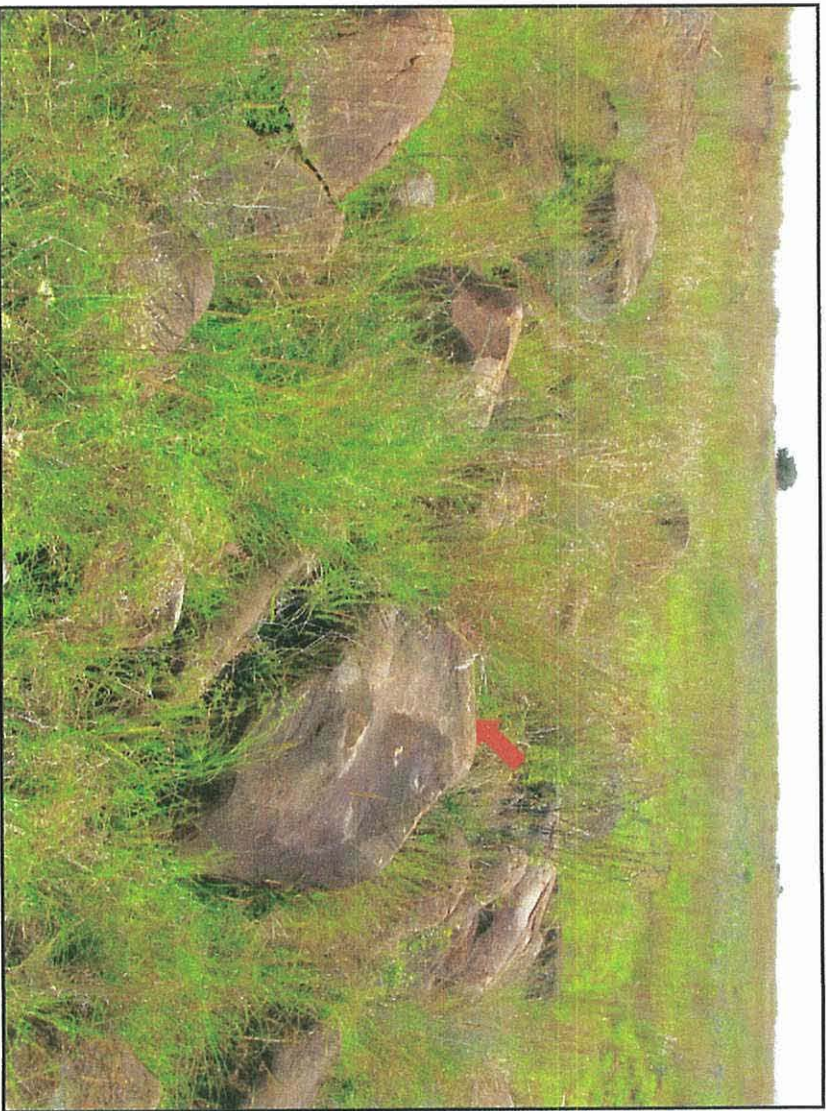


Plate 12 General view of RDR 3. The red arrow marks the position of the rock engraving. The tree visible above the horizon line marks the position of RDR 4.



Plate 13 Engraving of stone walled settlement. Scale is in 10 cm increments.

4.2.3.4 Mitigation

Due to the extraordinary significance of the Late Iron rock engravings, as well as the importance of context in rock art, it is recommended that the site be preserved *in situ*.

The following mitigation measures would be required:

- The site and surrounding buffer zone must be demarcated as a green open space in which no activities and direct impacts from the development may be allowed.
- A management plan must be compiled with which the sustainable conservation of the site can be achieved. Such a management plan would include aspects such as monitoring during the construction and operational phases.

4.2.4 RDR 4

4.2.4.1 Site Coordinates and Description

Coordinates:

25.12210 S

30.45157 E

Site is located between the Weltevreden road and the Doringberg stream. Due to the dense vegetation growth characterising the entire development area, an accurate assessment of the enclosure layout was difficult. Based on the layout derived from the aerial photograph, strong correlation between this enclosure unit and one of the settlements recorded by Van Hoepen (1939; see Kraal Group D, p. 55) can be seen.

The walling is very well preserved, and represents the best preserved stone walled enclosure to the east of the Weltevreden road. No archaeological material nor deposits or middens could be observed. This lack of these less visible features and objects may be due to the dense vegetation cover.

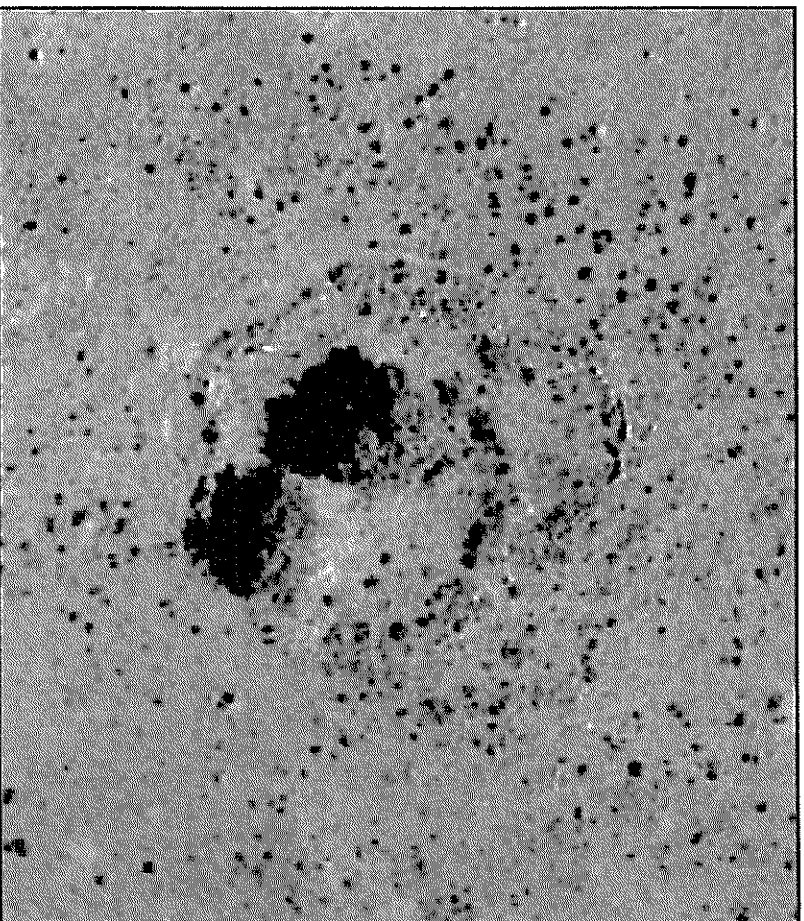


Figure 15 Aerial view of RDR 4.

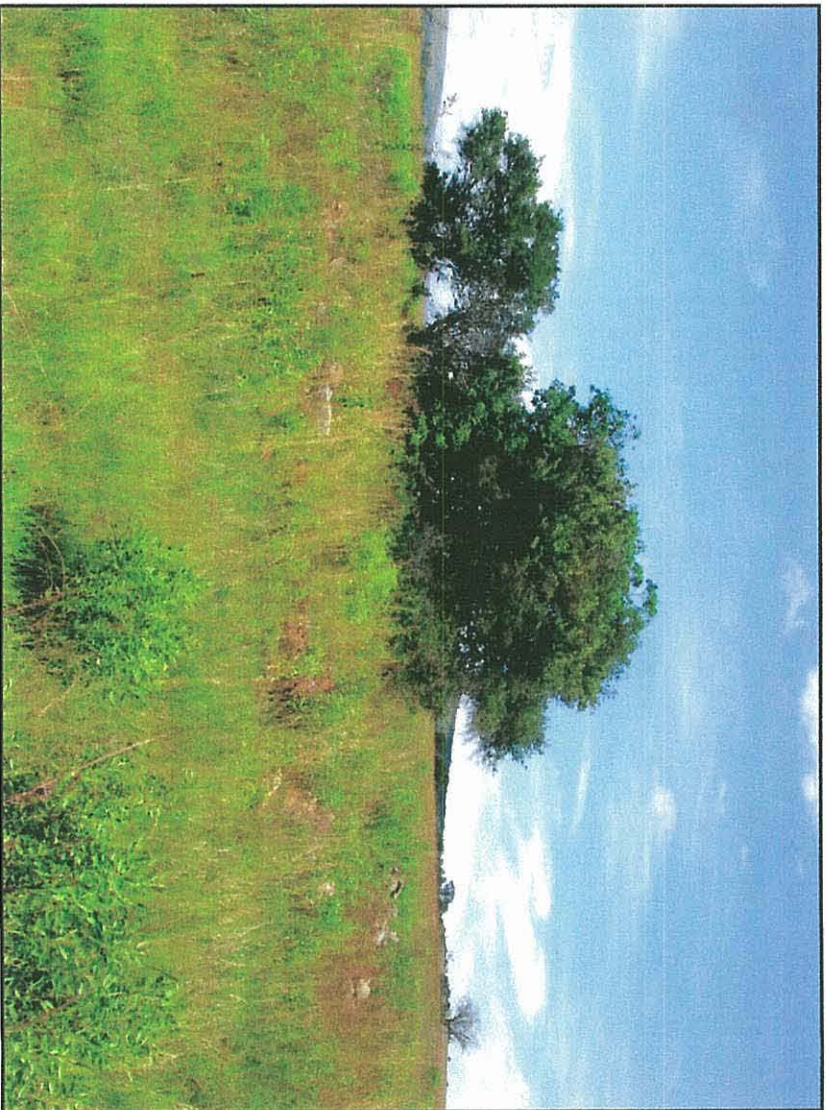


Plate 14 (above) General view of RDR 4.



Plate 15 (left) Cross-section of RDR 4's stone walling

4.2.4.2 Site Significance

Although the site is well preserved, it is neither extensive nor unique. The fact that the site represents the closest Iron Age enclosure unit to the rock engraving site at RDR 3, however, supports a higher significance ranking. Due to the dense vegetation, the presence of archaeological deposits could not be established.

Based on the present information, the site is believed to be of **Moderate Significance**. Should archaeological deposits be found here, the site's significance may increase.

4.2.4.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.4.4 Mitigation

The following mitigation measures are required for **RDR 4**:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- An assessment can then be made of the overall need for archaeological excavation. The excavations must be aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating.
- The survey and excavation results must be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

4.2.5 RDR 5

4.2.5.1 Site Coordinates and Description

Coordinates:

25.12032 S

30.45133 E

The site is located to the east of the Weltevreden Road, and consists of at Late Iron Age stone walling which includes enclosures. The walling is on average between 30 cm and 40 cm in height, whereas one definite circular enclosure measures approximately 14 m in diameter. The preservation of the site is very poor.

Although there is a good likelihood that this site may be associated with the Iron Age sites at RDR 2 as well as RDR 4, no direct physical link (i.e. terracing or cattle tracks) was observed.

The enclosures and features from the site appear to be associated with the more simple enclosure units as defined by Collett (1979, 1982) and Marker & Evans (1976). It is of course also true that the low preservation status (and low visibility due to vegetation growth) of the site may suggest a more simple enclosure unit, while in fact it could originally have been a more complex one.

4.2.5.2 Site Significance

Due to the low preservation of the site, as well as the lack of any unique features, RDR 5 is considered to be of **Moderate to Low Significance**.

4.2.5.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.6 RDR 6

4.2.6.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

The site is located between the Doringbergspuit in the east and the Weltevreden gravel road in the west. It is comprised of poorly preserved Late Iron Age stone walling. Although dense vegetation makes accurate assessments difficult, at least one enclosure unit is located directly north-west of the small bridge over the Doringbergspuit.

4.2.6.2 Site Significance

Due to the low preservation of the site, as well as the lack of any unique features, RDR 6 is considered to be of **Moderate to Low Significance**.

4.2.6.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worst-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.6.4 Mitigation

The following mitigation measures must be undertaken:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- The survey results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.



Figure 17 Aerial view of RDR 6.

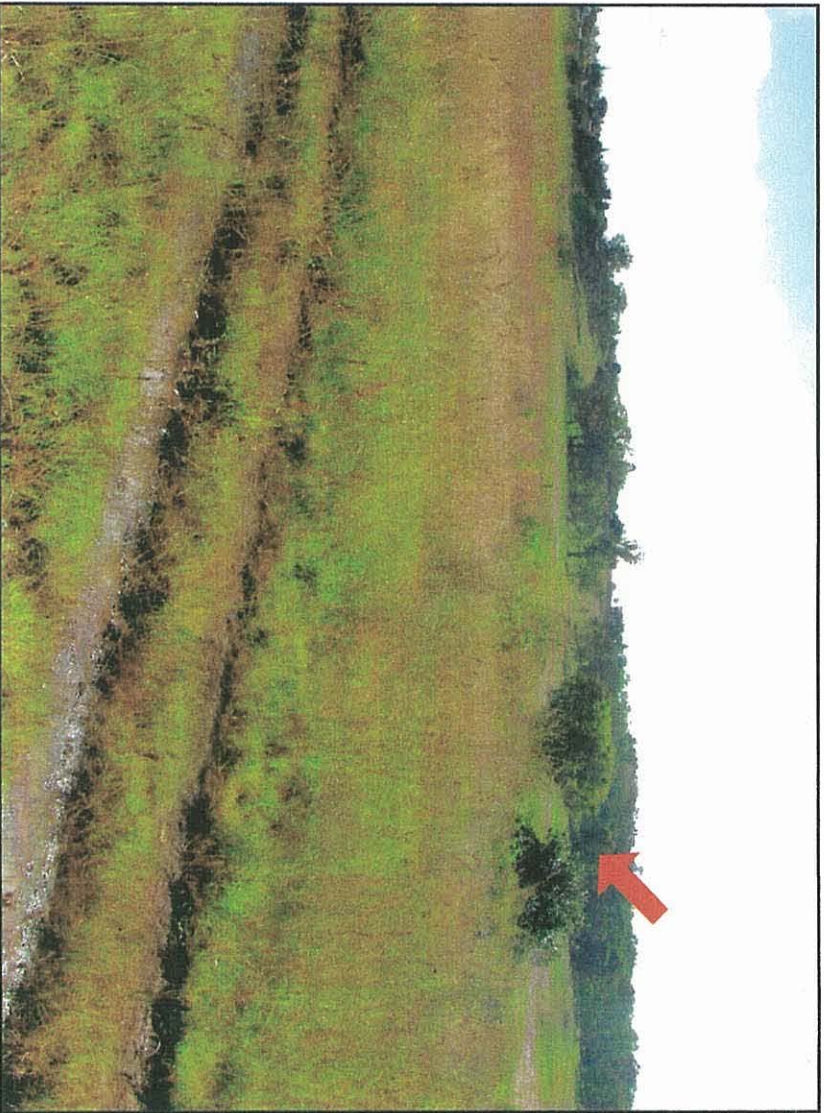


Plate 16 The red arrow marks the position of RDR 6.

4.2.7 RDR 7

4.2.7.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

The site is located near the northern boundary of the development area and is located directly south-west of a rocky outcrop. It consists of the remains of poorly preserved Late Iron Age stonewalling.

Although accurate assessments of the site layout is presently difficult to establish in the field due to the dense vegetation growth found on site, the aerial photograph of the development area appears to show a layout comprised of concentric circles.

RDR 7 represents the closest Iron Age stone walled site to the rock engraving at RDR 8.

4.2.7.2 Site Significance

Based on condition alone the site can not be considered to be of any great significance. However, its closeness to the rock engraving site (see RDR 8) requires a higher significance.

The site therefore considered to be of **Moderate Significance**.

4.2.7.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

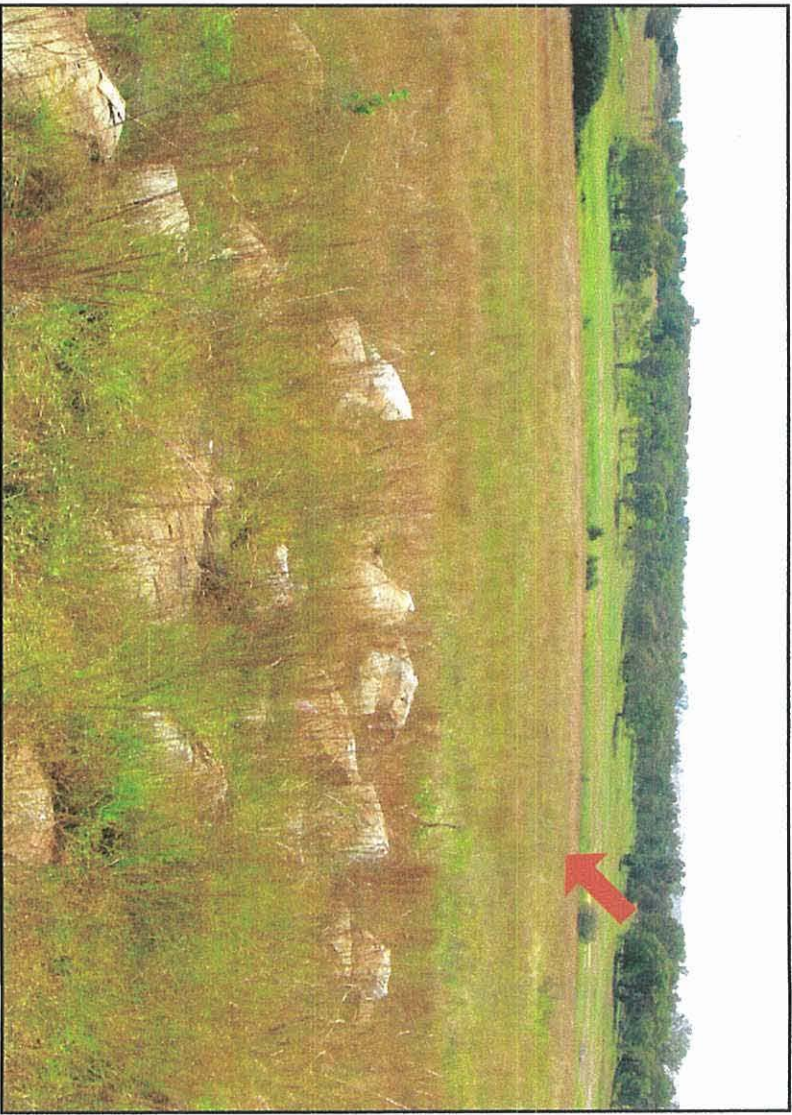


Plate 17 The red arrow marks the position of RDR 7.



Plate 18 Section of poorly preserved stonewalling from RDR 7.

4.2.8 RDR 8

4.2.8.1 Site Coordinates and Description

Coordinates:

25.11583 S

30.44779 E

The site is located a short distance south-west of the Late Iron Age site at RDR 7. It consists of a Late Iron Age engraving depicting a settlement layout plan that was pecked into the stone. Refer **Section 4.1.2.2.2.1** for more information on these engravings.

A portion of the engraved boulder is missing. This missing piece may have contained a section of this engraving. It is presently unknown whether this removal was as a result of natural processes or vandalism.

4.2.8.2 Site Significance

Although Iron Age engravings can not be considered unique features of the Lydenburg landscape, it is still of immense significance. RDR 8 is of **Very High Significance**.

4.2.8.3 Impact of the Proposed Development

Although final development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the development.

4.2.8.4 Mitigation

Due to the extraordinary significance of the Late Iron rock engravings, as well as the importance of context in rock art, it is recommended that the site be preserved *in situ*. The following mitigation would be required:

- The site and surrounding buffer zone must be demarcated as a green open space in which no development impacts may be allowed.
- A management plan must be compiled with which the sustainable conservation of the site can be achieved. Such a management plan would include aspects such as monitoring during the construction and operational phases.

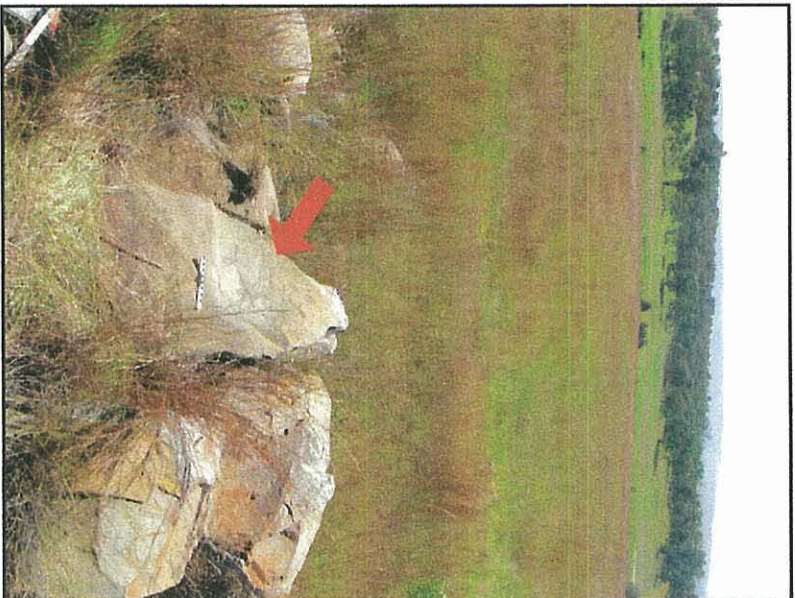


Plate 19 (left) General view of RDR 8. The arrow marks the position of the engraving.

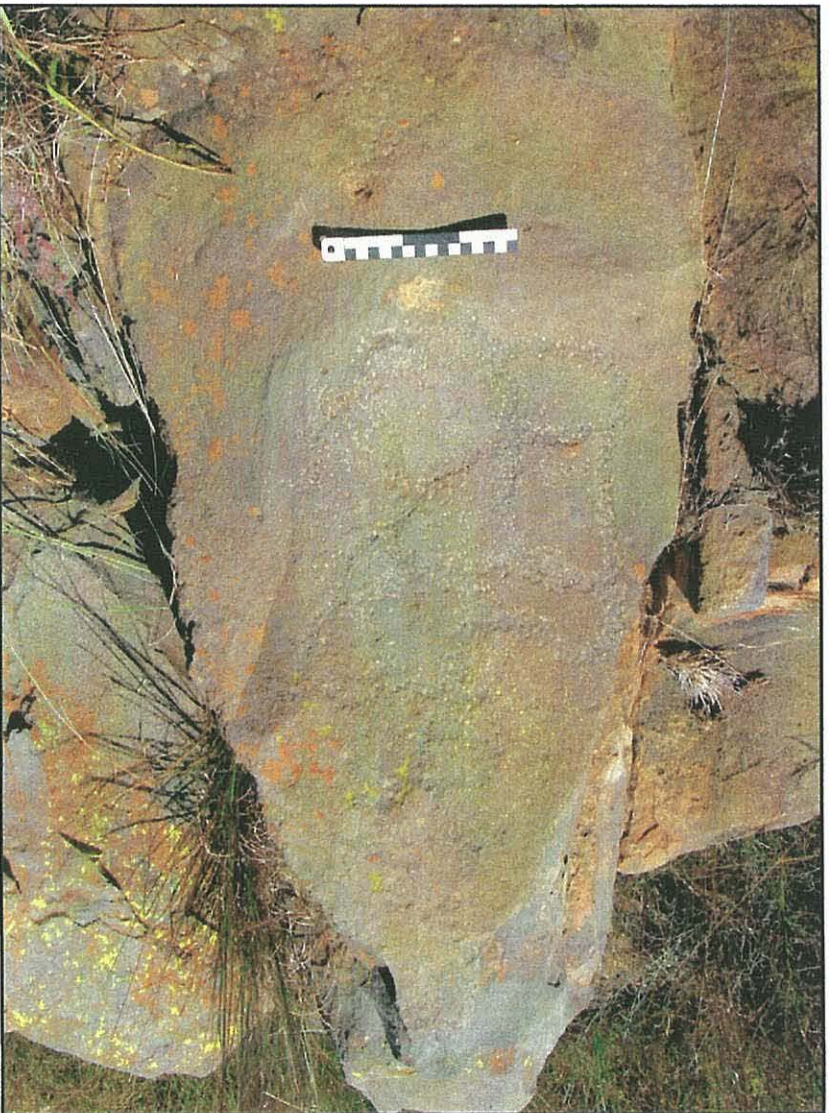


Plate 20 (below) Close-up view of the rock engraving.

4.2.9 RDR 9

4.2.9.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

The site is located in the corner formed by the Dullstroom and Machadodorp Roads, and as such is situated on the northern boundary of the development area. Due to the dense vegetation growth very little of the actual site is visible. It seems to consist of Late Iron Age stonewalling, and at least one circular enclosure was observed.

Neither archaeological artefacts nor deposits could be observed. The lack of these features may be due to the dense vegetation.

The closest Iron Age site from within the Morning Tide Development Area is RDR 7, which is situated to the east and across the Machadorp Road.

4.2.9.2 Site Significance

The dense vegetation makes an accurate assessment of the site significance very difficult. The site is provisionally given a **Moderate Significance** status.

4.2.9.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worst-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.9.4 Mitigation

The following mitigation measures are required for **RDR 9**:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- An assessment can then be made of the overall need for archaeological excavation. The excavations must be aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating.
- The survey and excavation results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

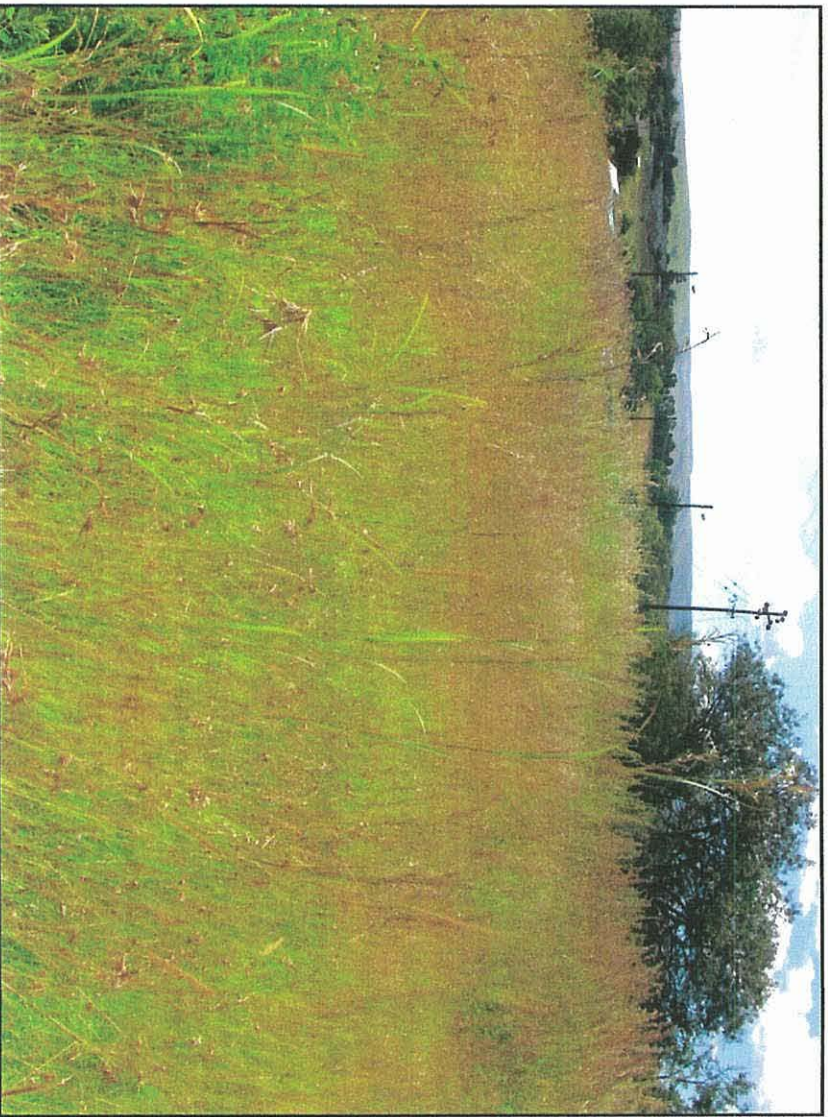


Plate 21

General view of RDR 9. The dense vegetation is clearly evident.

4.2.10 RDR 10

4.2.10.1 Site Coordinates and Description

Coordinates:

25.11694 S
30.44313 E

The site consists of densely overgrown rectangular structures and is located at the southern foot of a slight rise. It represents one of only two certain historic sites (the other being RDR 13) located within the Morning Tide Development Complex area.

The structures are mostly built of stone with mud used as mortar. Some sections of walling also consist of large flat stones which were placed upright to support and form a section of a wall. The preservation of the site is reasonably poor, and only the lower walls are still visible.

Although the position of the site does not exactly correlate with the position of the Montreal Post indicated on the archival Anglo-Boer War map, the site represents the only certain historic site found within the Morning Tide Development Area. The possible association of this site with the Anglo-Boer War military post can not yet be ignored.

4.2.10.2 Site Significance

RDR 10 represents one of only two (the other being RDR 13) certain historic sites from the entire Morning Tide development area. Based on preservation alone, it can not be considered as very significant. However, the possible association of this site with the military post from the Anglo Boer War requires a higher significance rating.

The site is of **Moderate Significance**.

4.2.10.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.10.4 Mitigation

- During or after the winter, or alternatively after vegetation clearing, another assessment of the site must be made to establish the possibility of it being associated with the Montreal military post from the Anglo Boer War.
- At the same time the site must be surveyed and drawn. The end result of this activity would be a layout plan showing all site components and features.
- Should the assessment and layout plan alone not provide concise enough information on the possibility of the site's association with the Montreal Post, and should deposit be observed, limited archaeological excavation could prove or disprove this association as well.

If the site is positively identified at being associated with the Montreal Post from the Anglo-Boer War, the following mitigation measures are required:

- A meeting must take place between the developer, the heritage specialist and the South African Heritage Resources Agency. During these discussions the feasibility of two possible outcomes must be decided upon. These outcomes are destruction of the site after enough information regarding it had been obtained through excavation and research, or alternatively demarcating an open green area around the military post in order to make it a feature within the proposed development.

If the site could not be associated with the Anglo-Boer War military post, the following mitigation measures are required:

- Permit application to the South African Heritage Resources Agency for the site to be destroyed. The application must be submitted with the report containing all survey, excavation and other findings.



Figure 19 Aerial view of RDR 10.



Plate 22 Section of the stone and mortar walling from RDR 10.

4.2.11 RDR 11

4.2.11.1 Site Coordinates and Description

Coordinates:

25.11745 S
30.44218 E

The site is located near the western boundary of the development area. It consists of what appears to be poorly preserved Late Iron Age terrace walling.

Neither archaeological artefacts nor deposits could be observed.

The closest Iron Age site from within the Morning Tide Development Area is the extensive settlement at RDR 1, and may in fact be associated with it.

4.2.11.2 Site Significance

The site is in a very poor condition, and as a result is given a **Low Significance** status.

4.2.11.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.11.4 Mitigation

Due to the low significance of the site, the only mitigation measure required would be for it to be included in the survey work undertaken at site RDR 1.

4.2.12 RDR 12

4.2.12.1 Site Coordinates and Description

Coordinates:

25.11533 S

30.44856 E

RDR 12 is situated on a gently sloping watershed in close proximity to the southern boundary of the development area. It consists of a Late Iron Age enclosure unit comprised of an outer stonewall with at least one central stone walled enclosure. The simple layout of the site concurs with the more simple enclosure unit layout types as described by Collett (1979, 1982) and Marker & Evans (1976).

The preservation of the site is poor and vegetation covers large sections of it. At present, the enclosing wall comprises only its foundation stones.

Neither archaeological material nor deposits could be observed. The lack of evidence for the existence of these less visible aspects may be due to the dense vegetation on site.

RDR 12 seems to represent the northernmost enclosure unit of a larger settlement. This assumption is based on the appearance of other enclosure units to the south and outside of the present development area on the aerial photograph.

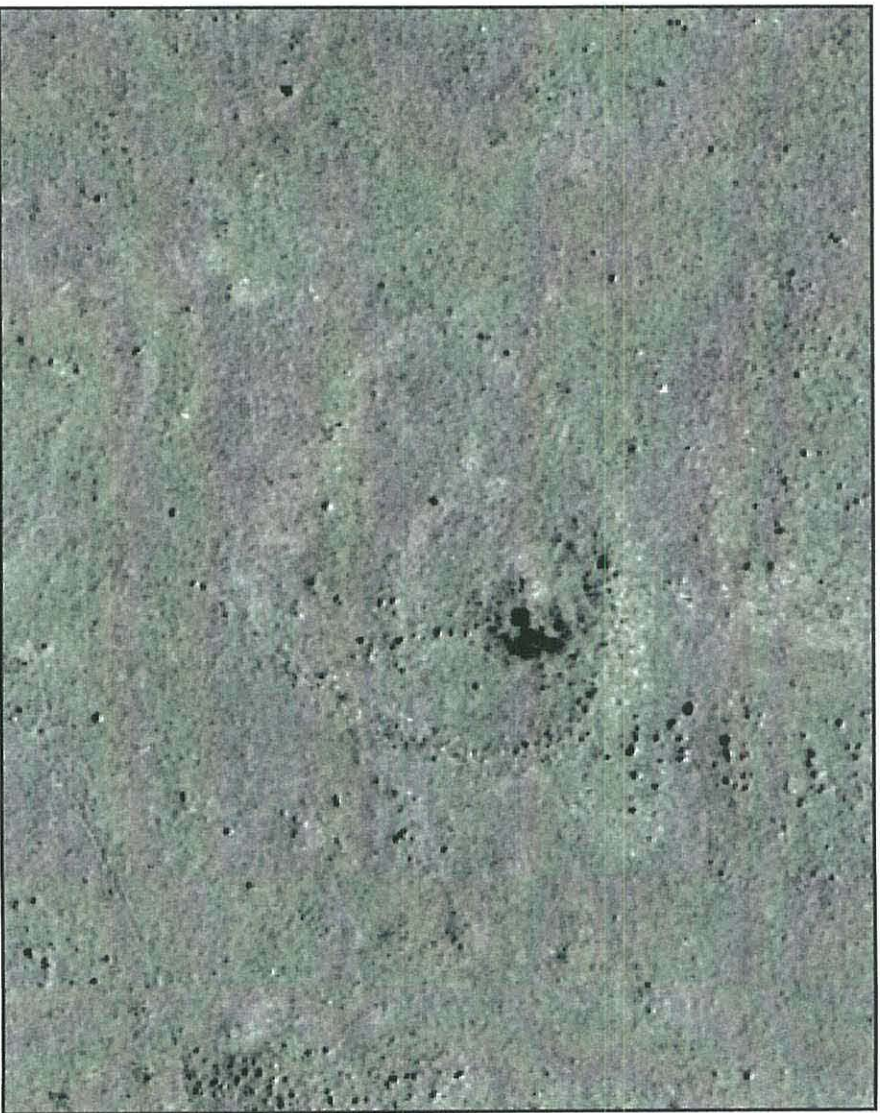


Figure 20 Aerial view of RDR 12.

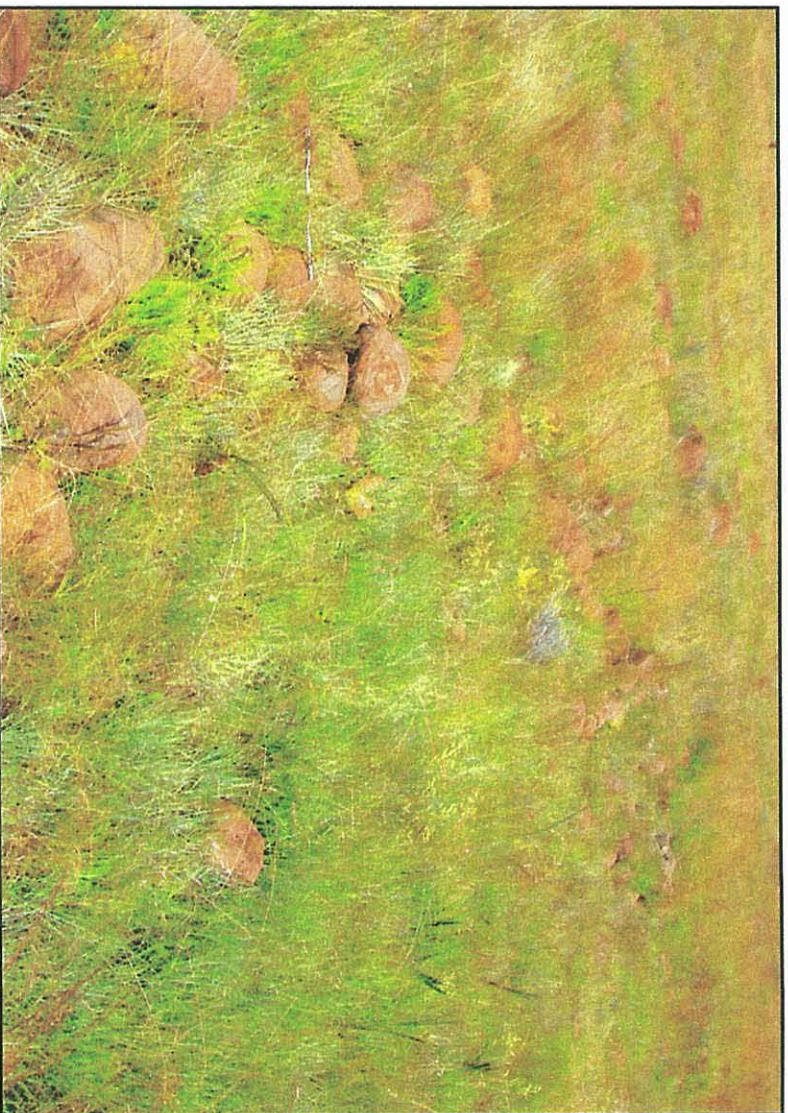


Plate 23 Stone foundations such as these represent the only remains of the enclosing wall at RDR 12.

4.2.12.2 Site Significance

Based on condition alone the site can not be considered to be of any great significance.

The site is of **Moderate to Low Significance**.

4.2.12.3 Impact of the Proposed Development

Although final and detailed development layout plans are not presently available, a worse-case scenario was used in which the entire site will be destroyed by the proposed development of the Morning Tide Complex.

4.2.12.4 Mitigation

The following mitigation measures are required for RDR 12:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- An assessment can then be made of the overall need for archaeological excavation. The excavations must be aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating.
- The survey and excavation results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

4.2.13 RDR 13

4.2.13.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Development Complex - Site Distribution Map)**

RDR 13 is located along and on both sides of the western boundary of the development area. It consists of what appears to be an old road. While it is always difficult to accurately compare physical features with depictions on archival maps, some correlation between this site and the old wagon road between Machadodorp and Lydenburg as depicted on the archival map (refer **Figure 1**) can be seen. This old wagon road had special significance during the Anglo-Boer War (and the British occupation of Lydenburg). Refer **Section 4.1.2.3.2.2** for more historical information.

4.2.13.2 Site Significance

If RDR 13 is in fact the old wagon road, it would be of at least **Moderate Significance**.

4.2.13.3 Impact of the Proposed Development

As RDR 13 is located on the boundary of the development area, with sections of it falling both outside and inside the development area, the impact can only be considered as high in terms of the road sections falling within the present development area.

4.2.13.4 Mitigation

It is doubtful whether further research would confirm (or disprove) the assumption that RDR 13 in fact represents the old wagon road. However, discussions with local elderly residents may provide additional information. Should the feature be shown to represent the old road, the following mitigation measures are required:

- The layout of the road must be included in the overall design of the development. A good example would be for a road to be built along its course, on the condition that a small section is protected.
- The historic significance of the road must be commemorated by means of a information board placed next to the protected section.

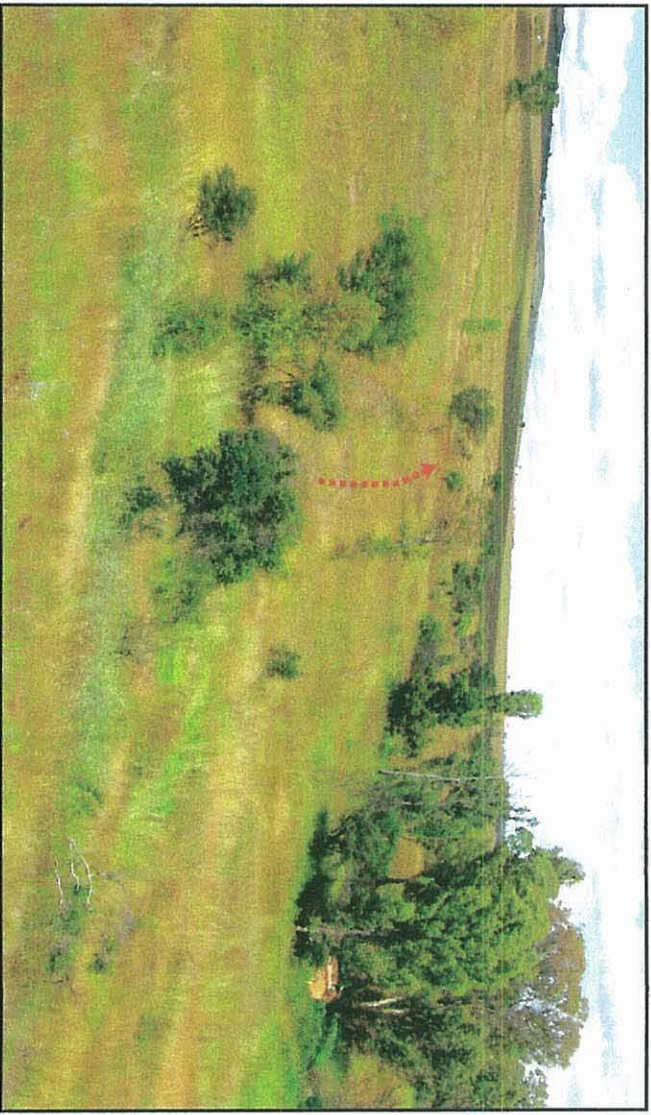


Plate 24

A view of a section of what appears to have been the old wagon road between Machadodorp and Lydenburg. Photograph was taken in a southern direction. Visible section of road marked in red.

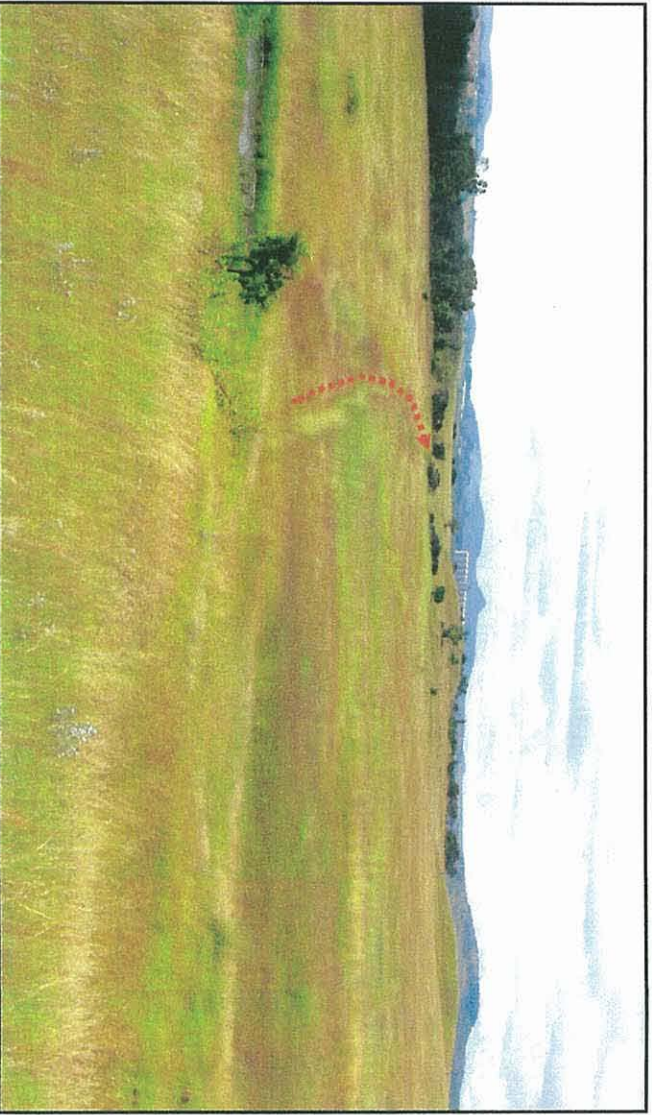


Plate 25

A view of a section of the same feature (RDR 13). Lydenburg can just be seen in the distant background. Photograph taken in a north-eastern direction. Visible section of road marked in red.

4.3 Survey Findings – Morning Tide Power Line

4.3.1 MTPPL 1

4.3.1.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Power Line - Site Distribution Map)**

MTPPL 1 consists of a cemetery that is still used by Marambane residents. The cemetery is fenced into two sections. The western component must have represented the original cemetery and is filled to capacity with graves. The eastern component, which is also fenced, appears to be a more recent extension to the existing cemetery and contains only a few very recent graves on its northern side. The proposed power line crosses over the eastern component.

The oldest grave that could be observed was dated 1975. It is likely that even older graves are found here as well.

4.3.1.2 Site Significance

All graves and cemeteries possess high emotional and religious significance. As such the cemetery is given a **High Significance** status.

4.3.1.3 Impact of the Proposed Development

Any power line construction normally constitutes a number of smaller, linear aligned impact areas representing the footprints of the power line supports. As the exact positions of these supports are not presently known, the impact of the development on the site can presently not be established.

4.3.1.4 Mitigation

The construction of power line supports within the cemetery area must be avoided. Even if this measure is adhered to, the power line will still cross over a portion of the cemetery area. A sensitive public participation process will have to be undertaken with the affected families of the persons buried in the cemetery.



Plate 26 General view of the western component of the cemetery at MTP L 1. It is evident that this section is filled to capacity.



Plate 27 View of a portion of the eastern component which represents an extension of the original cemetery. The graves from the original cemetery are visible to the left.

4.3.2 MTPL 2

4.3.2.1 Site Coordinates and Description

Coordinates:

25.08896 S

30.43027 E

MTPL 2 consists of a single rectangular stone-built structure of which only the foundation still remains. The structure is 12 m by 8 m in extent.

No associated artefacts or deposits could be observed.

4.3.2.2 Site Significance

The site can be considered to be of **No Significance**.

4.3.2.3 Impact of the Proposed Development

As the site is considered to be of No Significance, no assessment of the impact of the development on the site is required.

4.3.2.4 Mitigation

As the site is considered to be of Low Significance, no mitigation measures are required.

4.3.3 MTP L 3

4.3.3.1 Site Coordinates and Description

Coordinates:

25.10021 S

30.43292 E

The site comprises a single enclosure unit dating from the Late Iron Age. Although dense vegetation made it impossible to assess the exact layout of the site, it conforms to the other enclosure units and sites observed during the survey. One of the large enclosures observed on site is approximately 40 m in diameter.

The overall preservation of the site is good, and although the vegetation growth made it impossible to assess the site for archaeological deposits, a broken grinding stone was observed on one of the walls.

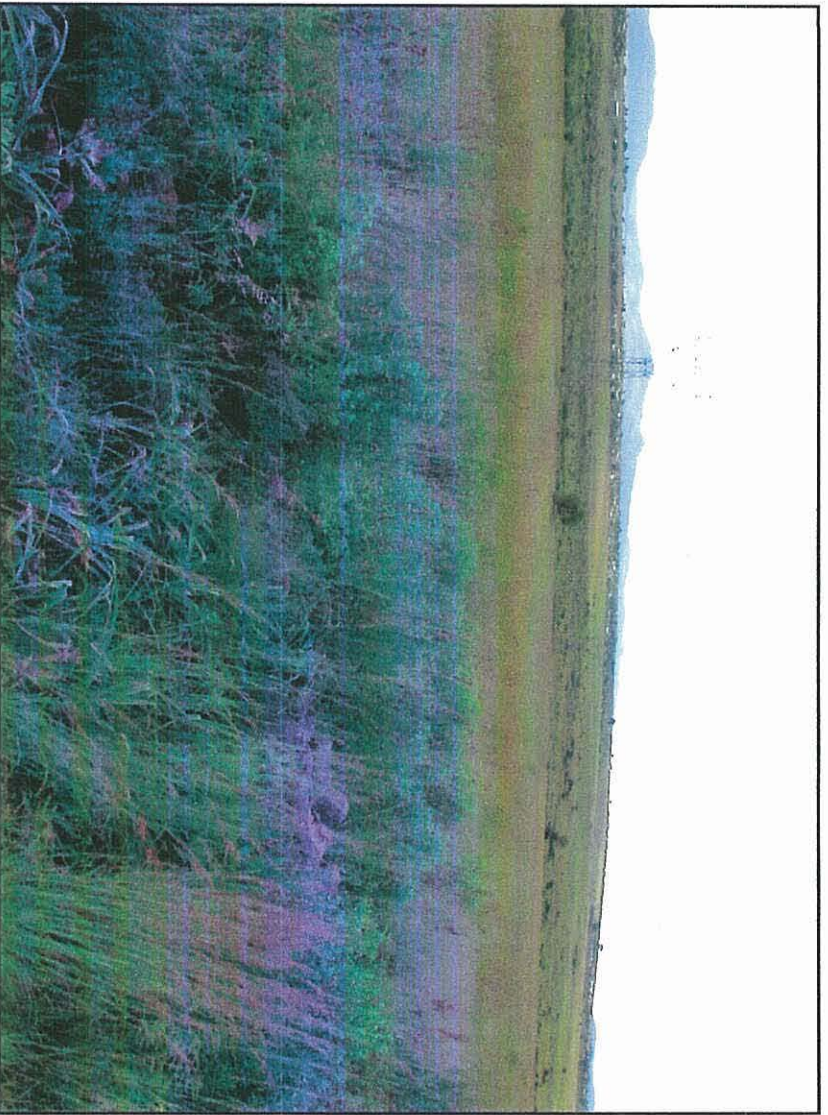


Plate 28

General view of the site looking north-west. Sections of the stone walls from the site are visible in the foreground on the right. The supports from the existing power lines, as well as the residential area known as Marambane, are visible in the back.



Plate 29

Cross-section view of stone walling from MTP.L 3.



Plate 30

Broken lower grinding stone from MTP.L 3.

4.3.3.2 Site Significance

The site can be considered to be of **Moderate Significance**.

4.3.3.3 Impact of the Proposed Development

Power line construction normally includes a number of smaller, linear aligned impact areas representing the footprints of the power line supports. As the exact positions of these supports are not presently known, the impact of the development on the site can presently not be established.

4.3.2.4 Mitigation

An ideal situation would be for the power line support system to be so designed that the footprint areas of the supports entirely miss the site. However, should the positions of these supports already have been established, or should it prove impractical to have no supports in the area covered by the site, it is recommended that a re-assessment of each impact footprint be undertaken. This would allow an accurate evaluation of the impact (if any) of these supports on the site, which in turn would allow proper mitigation recommendations to be made.

4.3.4 MTPL 4

4.3.4.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Power Line - Site Distribution Map)**

The site consists of an extensive Late Iron Age settlement situated along the upper eastern slope of a hill to the south-west of Lydenburg. Although dense vegetation covers large sections of the site, at least four enclosure units were located in reasonable close proximity to one another. Some terracing and possible cattle tracks were observed. However, their relatively low frequency on site can likely be attributed to the low visibility of these features, especially so if one considers the dense vegetation found here.

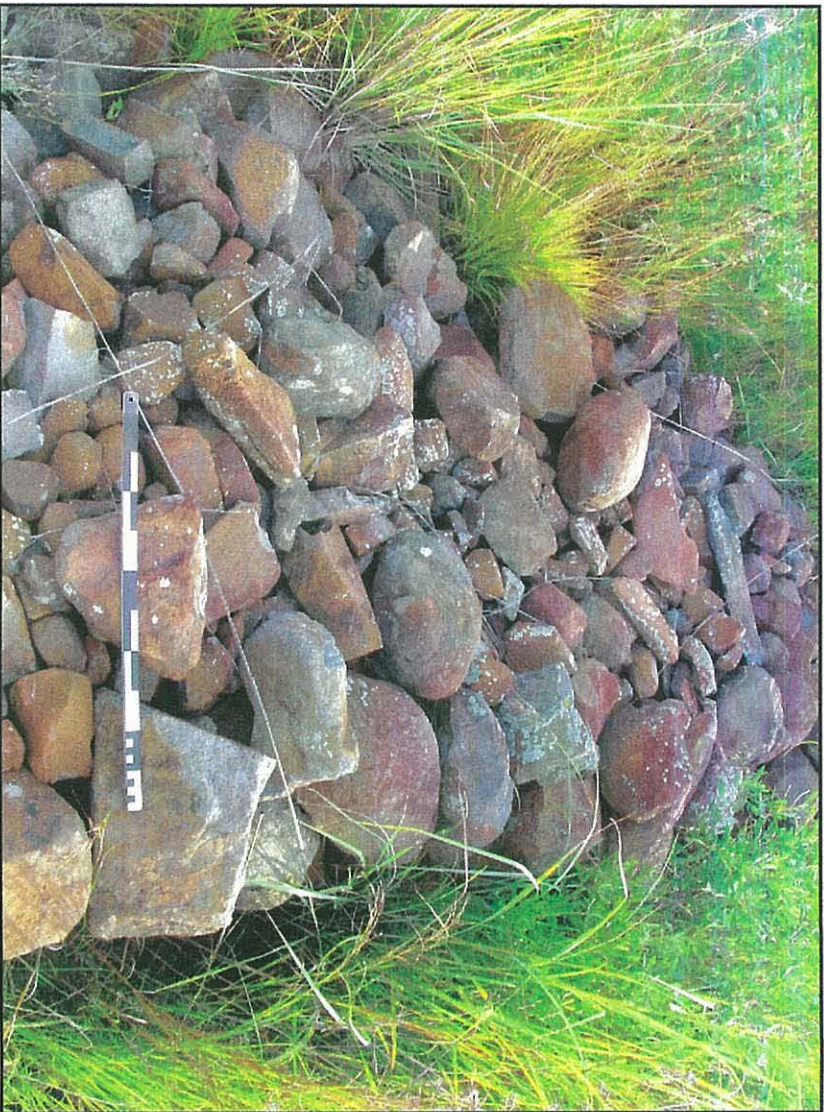
The vegetation growth may also explain the almost complete lack of observed archaeological material. Only two artefacts were observed, namely an undecorated clay potsherd and a fragment from a wall tile. While the clay sherd can certainly be associated with the site itself, the tile fragment was taken to a vintage glass, porcelain and tile specialist from the African Window Museum, Ms. Corine Meyer. She was able to positively identify it as a Victorian wall tile fragment dating from ca. 1870-1880. The decoration on the tile was made using a technique called transfer printing. The tile was also glazed. These wall tiles were quite thick and each was approximately 15 cm x 15 cm in extent (Corine Meyer, *Pers. Comm.*). No direct association between this artefact and the Late Iron Age site can be indicated, and as such a secondary context for the wall tile fragment must be assumed.

The overall preservation of the site is quite good, although some enclosure units are better preserved than others. The condition of the southernmost enclosure unit (enclosure unit D) is reasonably poor.



Plate 31 (left) Stone walling from enclosure unit A.

Plate 32 (below) Cross section of walling from enclosure unit C.



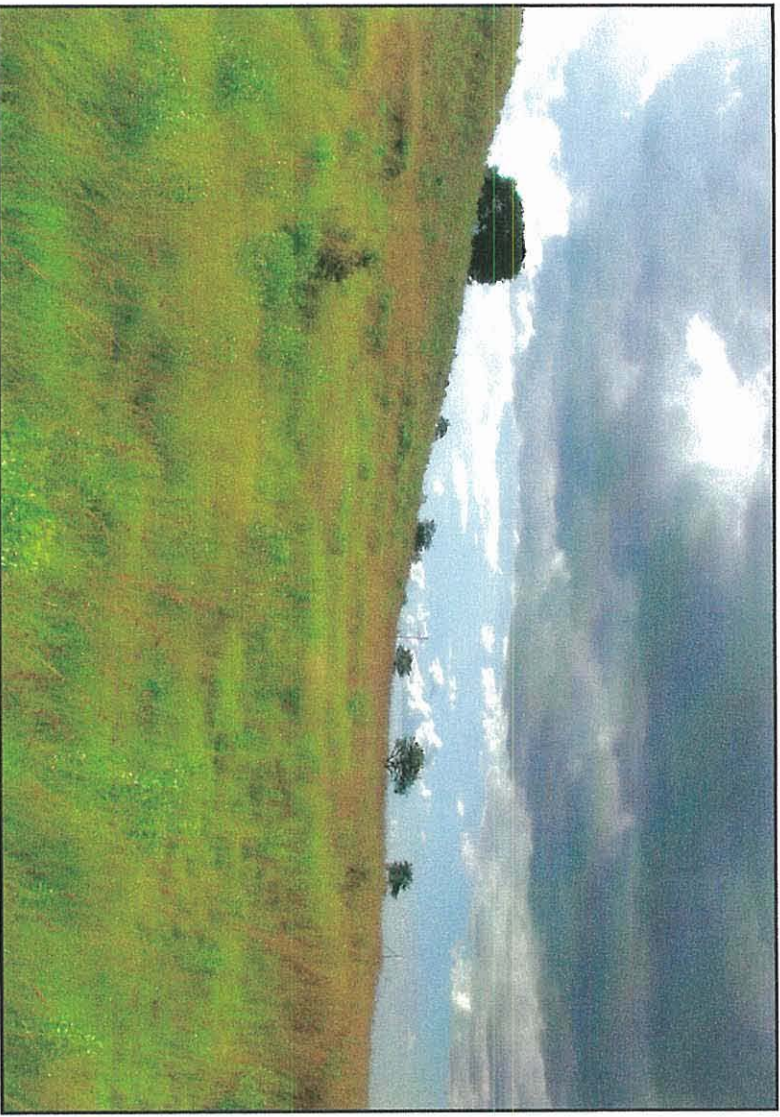


Plate 33

General view of the site as seen from the south. Enclosure unit D is located in the front, while the smaller trees on the horizon indicate the positions of some of the other enclosure units, such as C and A.

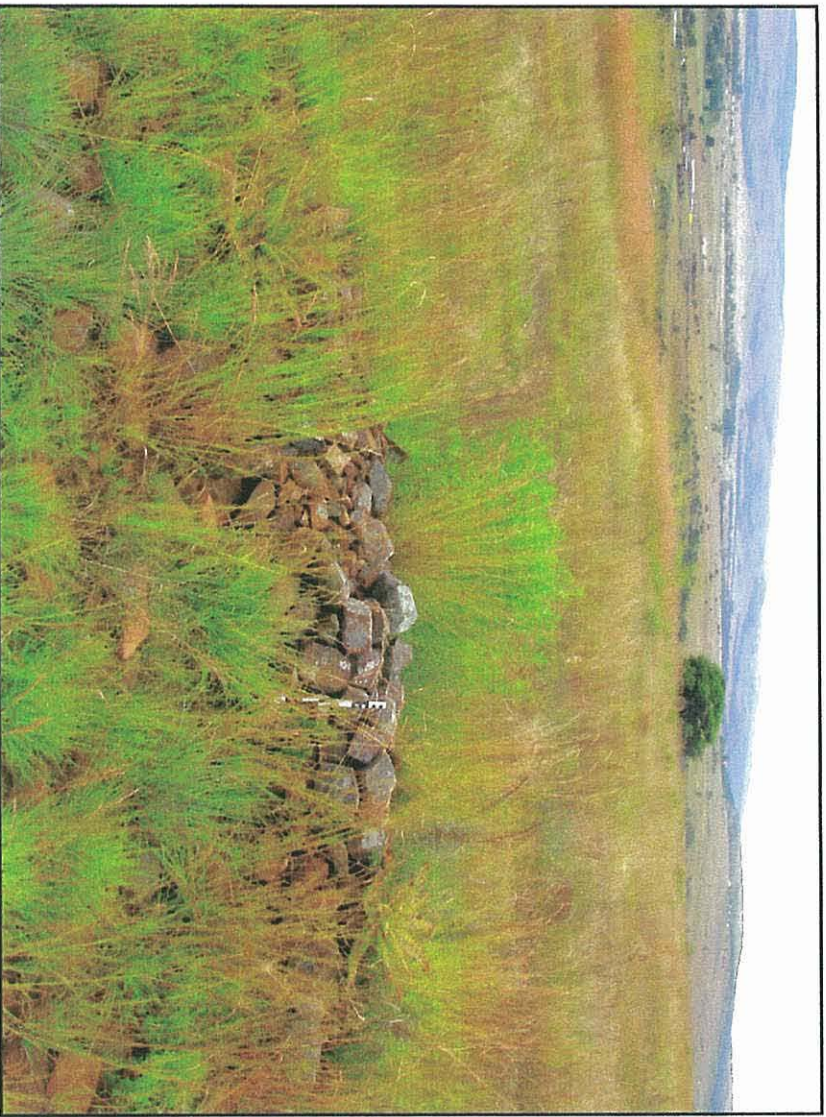


Plate 34

View over a section of the site looking in a southern direction. The walling in the foreground is from enclosure unit B.

4.3.4.2 Site Significance

A Late Iron Age site such as MTP.L 4 possesses high levels of historical and scientific significance. As a result, the site is classified to be of **High Significance**.

4.3.4.3 Impact of the Proposed Development

Power line construction normally includes a number of smaller, linear aligned impact areas representing the footprints of the power line supports. As the exact positions of these supports are not presently known, the impact of the development on the site can presently not be established.

4.3.4.4 Mitigation

An ideal situation would be for the power line support system to be so designed that the impact footprints of the supports entirely miss the site. However, should the support positions already have been established, or should the lack of any supports over this reasonable extensive area not be a practical option, it is recommended that a re-assessment of each impact footprint be undertaken. This would allow an accurate evaluation of the impact (if any) of these supports on the site, which in turn would allow proper mitigation recommendations to be made.

4.3.5 MTPL 5

4.3.5.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Morning Tide Power Line - Site Distribution Map)**

The site consists of a Late Iron Age settlement and is located near the Dullstroom Road. Stone walled enclosures as well as terrace walls were observed here.

4.3.5.2 Site Significance

The site is considered to be of **Moderate Significance**.

4.3.5.3 Impact of the Proposed Development

Power line construction normally includes a number of smaller, linear aligned impact areas representing the footprints of the power line supports. As the exact positions of these supports are not presently known, the impact of the development on the site can presently not be established.

4.3.5.4 Mitigation

An ideal situation would be for the power line support system to be so designed that the impact footprints of the supports entirely miss the site. However, should the support positions already have been established, or should the lack of any supports over this reasonable extensive area not be a practical option, it is recommended that a re-assessment of each impact footprint be undertaken. This would allow an accurate evaluation of the impact (if any) of these supports on the site, which in turn would allow proper mitigation recommendations to be made.

4.3.6 MTPL 6

4.3.6.1 Site Coordinates and Description

Coordinates:

25.11420 S

30.44260 E

The site consists of at least one rectangular historic structure. It was built of stone and has mortar in-between the stones.

The condition of the site is very poor, and only the lower sections of the walls can still be seen.

The building technique used in the construction of the structure is almost identical to the technique used at RDR 10.

4.3.6.2 Site Significance

The site is considered to be of **Low Significance**.

4.3.6.3 Impact of the Proposed Development

Power line construction normally includes a number of smaller, linear aligned impact areas representing the footprints of the power line supports. As the exact positions of these supports are not presently known, the impact of the development on the site can presently not be established.

4.3.6.4 Mitigation

An ideal situation would be for the power line support network to be so designed that the supports entirely miss the site. However, should the support positions already have been established, or should the lack of any supports over site not be a practical option, it is recommended that a re-assessment of the impact footprints be undertaken. This would allow an accurate evaluation of the impact (if any) of these supports on the site, which in turn would allow proper mitigation recommendations to be made.

4.4 Survey Findings – Abrina Residential Development

4.4.1 ARD 1

4.4.1.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Abrina Residential Development - Site Distribution Map)**

ARD 1 consists of a Late Iron Age stone walled site situated near the western boundary of the proposed development. As the area is densely vegetated, an assessment of the exact layout of the site was not possible. This may also be the reason why no middens could be observed. A single grinding stone was found on top of one of the stone walls.

4.4.1.2 Site Significance

Based on the present available information the site is of **Moderate Significance**. Should archaeological deposits be observed here during the re-assessment when vegetation growth is less, an even higher significance ranking appears to be likely.

4.4.1.3 Impact of the Proposed Development

Although no detailed development layout plans are presently available, a worse-case scenario was used to assess the impact of the development on the site. In terms of this the site falls within the development area and if it is not mitigated will be destroyed.

4.4.1.4 Mitigation

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn.
- At this time, an assessment must also be made as to the need for archaeological excavation. Such excavation would be aimed at obtaining a representative artefact assemblage from the site and if possible material for radiocarbon dating.
- The survey (and excavation) results can then be compiled in a report.
- An application must be made to SAHRA for a permit to destroy the site. This application must be submitted with the report.



Plate 35 (left) Cross-section of stone walling from ARD

Plate 36 (below) Section of an enclosure at ARD 1.



4.4.2 ARD 2

4.4.2.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Abrina Residential Development - Site Distribution Map)**

The site consists of densely overgrown stone walling. Although accurate assessments are hampered by the vegetation growth, it appears to represent a Late Iron Age enclosure unit. At least one terrace wall was observed a short distance to the east.

4.4.2.2 Site Significance

Based on the present available information the site is of **Moderate Significance**. Should archaeological deposits be observed here during the re-assessment when vegetation growth is less, an even higher significance ranking appears to be likely.

4.4.2.3 Impact of the Proposed Development

Although no detailed development layout plans are presently available, a worse-case scenario was used to assess the impact of the development on the site. In terms of this the site falls within the development area and if it is not mitigated will be destroyed.

4.4.2.4 Mitigation

The following mitigation measures are required:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- An assessment must also be made as to the need for archaeological excavation. Such excavation is aimed at obtaining a representative artefact assemblage from the site and if possible material for radiocarbon dating.
- The survey and excavation results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be supported by the report.



Plate 37

ARD 2's enclosure unit is situated within this clump of dense vegetation.



Plate 38

Cross-section of stone walling from ARD 2.

4.4.3 ARD 3

4.4.3.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Abrina Residential Development - Site Distribution Map)**

A number of features and artefacts characteristic of the Late Iron Age have been observed here. These include circular stone walled enclosures, terrace walls as well as two lower grinding stones. The site is spread over a reasonably large area which includes flat sections as well as steep slopes. With the exception of small areas, the entire site is densely overgrown with vegetation. It is therefore not surprising that apart from the two lower grinding stones no other archaeological artefacts or deposits could be observed.



Plate 39 This lower grinding stone was found adjacent to the terrace wall depicted in Plate 43.

A farmhouse and fenced yard forms the southern boundary of the site, and as another similar site (see ARD 4 below) was located on the opposite side of the farmstead, it seems likely that these sites formed part of a single Late Iron Age settlement. For the purposes of this report however, they are dealt with as two separate sites.



These two plates depict the differences in stone walling found at ARD 3. Note the wideness and building technique of the walling depicted in **Plate 40** (above) as compared to the same aspects depicted on the wall in **Plate 41** on the left.





Plate 42 Terrace walling such as the one depicted here are found along the steep sloped areas of the site. The height of these walls varies between 50 cm and 60 cm.



Plate 43 On the more level areas the height of the terracing varies between 15 cm and 45 cm.

4.4.3.2 Site Significance

Based on the present available information the site is of **Moderate Significance**. Should archaeological deposits be observed here during the re-assessment when vegetation growth is less, an even higher significance ranking appears to be likely.

4.4.3.3 Impact of the Proposed Development

Although no detailed development layout plans are presently available, a worse-case scenario was used to assess the impact of the development on the site. In terms of this the site falls within the development area and if it is not mitigated will be destroyed.

4.4.3.4 Mitigation

The mitigation measures outlined here is based on the worse-case scenario outlined above in terms of which the site will be destroyed if no mitigation takes place. The following mitigation measures are required:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- An assessment must also be made as to the need for archaeological excavation. Such excavation is aimed at obtaining a representative artefact assemblage from the site and if possible material for radiocarbon dating.
- The survey and excavation results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

4.4.3 ARD 4

4.4.3.1 Site Coordinates and Description

Coordinates:

See **Annexure B (Abrina Residential Development - Site Distribution Map)**

The site consists of poorly preserved Late Iron Age stone walling situated along a gentle sloped area. The walling itself is barely visible and only the foundations remain. A single lower grinding stone was also observed.

4.4.3.2 Site Significance

The site is in a very poor condition. As a result, its significance is of **Moderate to Low** significance.

4.4.3.3 Impact of the Proposed Development

Although no detailed development layout plans are presently available, a worse-case scenario was used to assess the impact of the development on the site. In terms of this the site falls within the development area and if it is not mitigated will be destroyed.

4.4.3.4 Mitigation

The mitigation measures outlined here is based on the worse-case scenario outlined above in terms of which the site will be destroyed if no mitigation takes place. The following mitigation measures are required:

- During or after the winter, or alternatively after vegetation clearing, the entire site must be surveyed and drawn. The end result of this activity would be a layout plan showing the various enclosure units, terracing, cattle tracks and the like.
- The survey results will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.

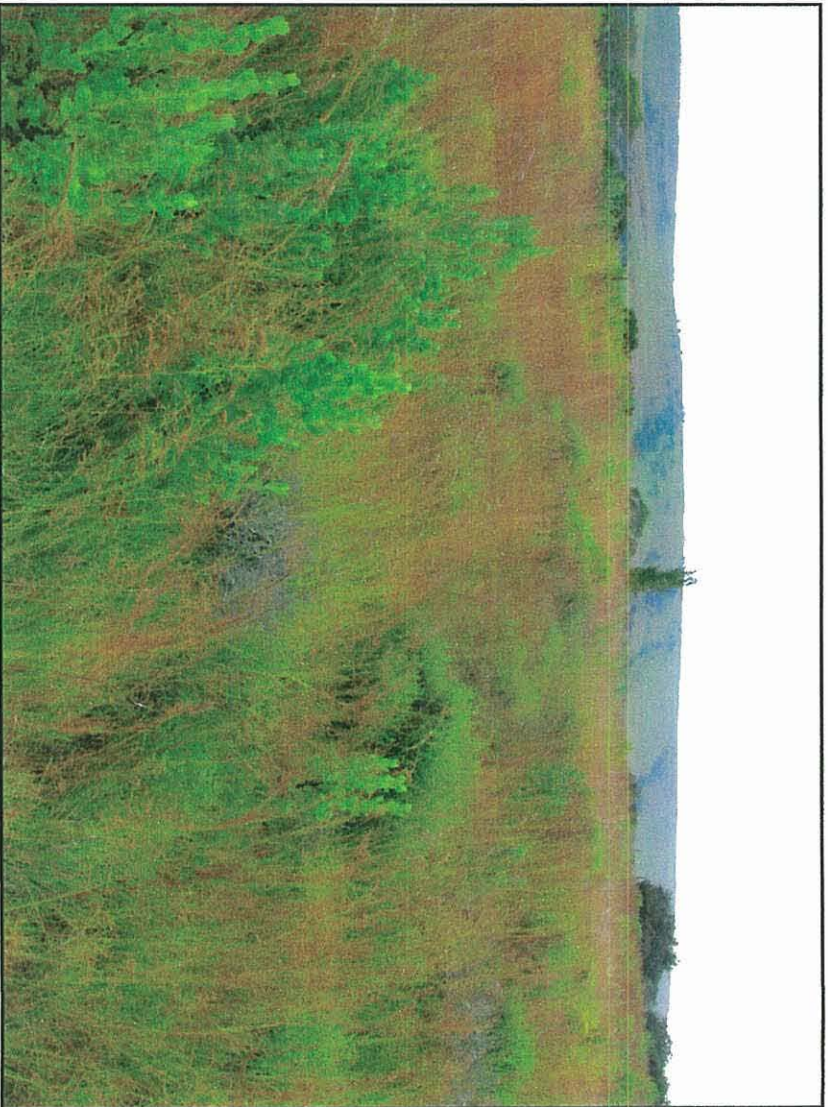


Plate 44

General view of the area in which the stone wall foundations were found.



Plate 45

Lower grinding stone from ARD 4.

5. HERITAGE REQUIREMENTS IN TERMS OF SECTION 38 (3) OF THE NATIONAL HERITAGE RESOURCES ACT NOT DEALT WITH IN THE PREVIOUS SECTION.

5.1 "The identification and mapping of all heritage resources in the area affected"

This requirement has been suitably addressed in **Section 4 Findings**. With the GPS co-ordinates obtained from the field, the different sites were individually plotted using Arcview 8.1 GIS Software. Refer **Annexure B Site Distribution Maps**.

5.2 "A(a)n evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;"

A number of socio-economic benefits are expected to be derived from the proposed developments. These include:

- **Housing**

The Lydenburg area is experiencing a housing shortage. The proposed development project would address this need.

- **Employment**

The project is expected to create temporary employment opportunities during the Construction Phase, and permanent employment opportunities during the Operational Phase.

The latest available unemployment figures dates from 2001 and were derived from the Demarcation Board. According to these statistics the Thaba Chweu Local Municipality had a total labour force of 37 114, of which 9 312 individuals were unemployed. This comes to an unemployment percentage of 25.1%. Comparing the data from 2001 with those from 1996, it becomes evident as well that the unemployment figure is showing an upward trend. The statistics for 1996 in the Thaba Chweu Local Municipality indicate that out of a total labour force of 27 609, 5 077 individuals were unemployed. This means that the percentage of unemployed workers at this stage stood at 18.4% of the total labour force.

- **Financial Investment in the Local Economy**

Not only will the proposed development result in a direct economic injection, secondary benefits will also be derived such as the use of local shops and businesses by the project construction contractors and their teams.

Although a number of sites with High and Very High Significance status were located within the proposed development areas, the impact of the development on these can be suitably mitigated to allow for very little negative impact on the heritage fabric of the area. It stands to reason therefore that when a comparison is drawn between the mitigated impact of the proposed development on the heritage sites and the significant socio-economic benefits to be derived from the project, the benefits would certainly far outweigh the envisaged impact after mitigation.

5.3 “The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;”

As required by EIA Regulations 22, 23 and 26 the Environmental Conservation Act 73 of 1989, a public participation process for the proposed development has been undertaken. This included Public Participation Meetings as well.

During the fieldwork component informal discussions were held with a number of local residents, as well as specific specialists.

6. CONCLUSIONS AND GENERAL RECOMMENDATIONS

The studies undertaken of the three development areas comprised of the Morning Tide Development Complex, Morning Tide Power Line and the Abrina Residential Development resulted in the discovery of **twenty-three** sites. The distribution of these sites within the different development areas can be viewed under **Annexure B Site Distribution Maps**.

Significance assessments for all these sites were undertaken. The impact of the development on each site as well as the required mitigation measures are also provided. Refer **Sections 4.2, 4.3 and 4.4**.

A number of general mitigation measures are required:

- Due to the importance and sensitivity of the Iron Age in the vicinity of Lydenburg, it is recommended that a specialist of this specific field in the archaeology be appointed to accompany the author of this report to the study areas. The aim of this site visit would be for the specialist to evaluate the different Iron Age sites located during the survey, and make approvals/revisions to the present report. Until such time that the specialist has made his/her comments, the recommendations of this report with regard to the Iron Age sites must be considered provisional.
- Due to the dense vegetation cover found over almost the entire development area, the possibility does exist for archaeological and heritage material, features and deposits to have remained undiscovered during the foot survey. A watching brief must be coordinated with the developer. Such a watching brief entails the on-site presence of an archaeologist during the course of the Construction Phase. The low visibility of Early Iron Age sites supports this recommendation.

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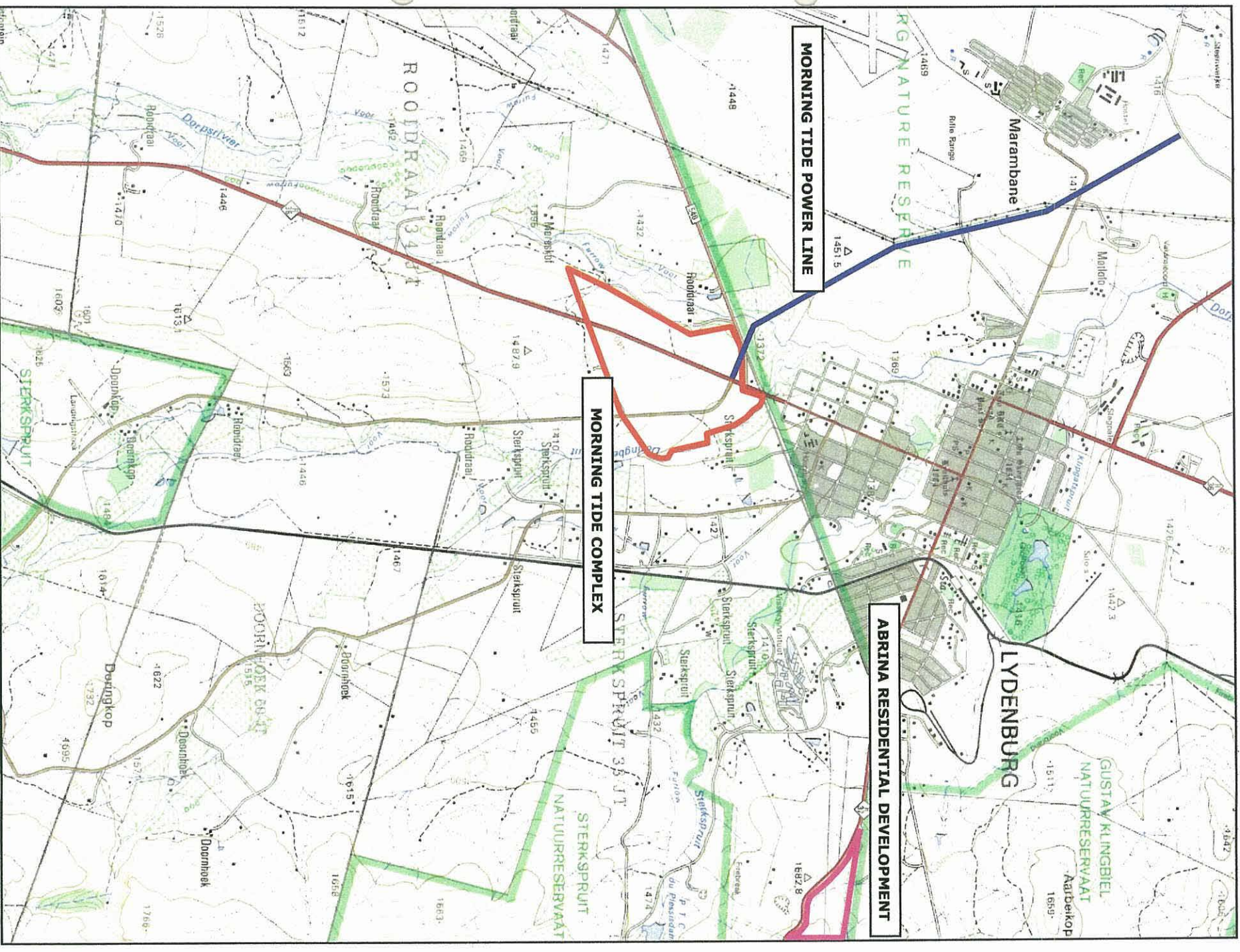
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Unpublished Project Data

Aerial Photographs of Study Area, obtained from the client.

ANNEXURE A - LOCALITY MAP

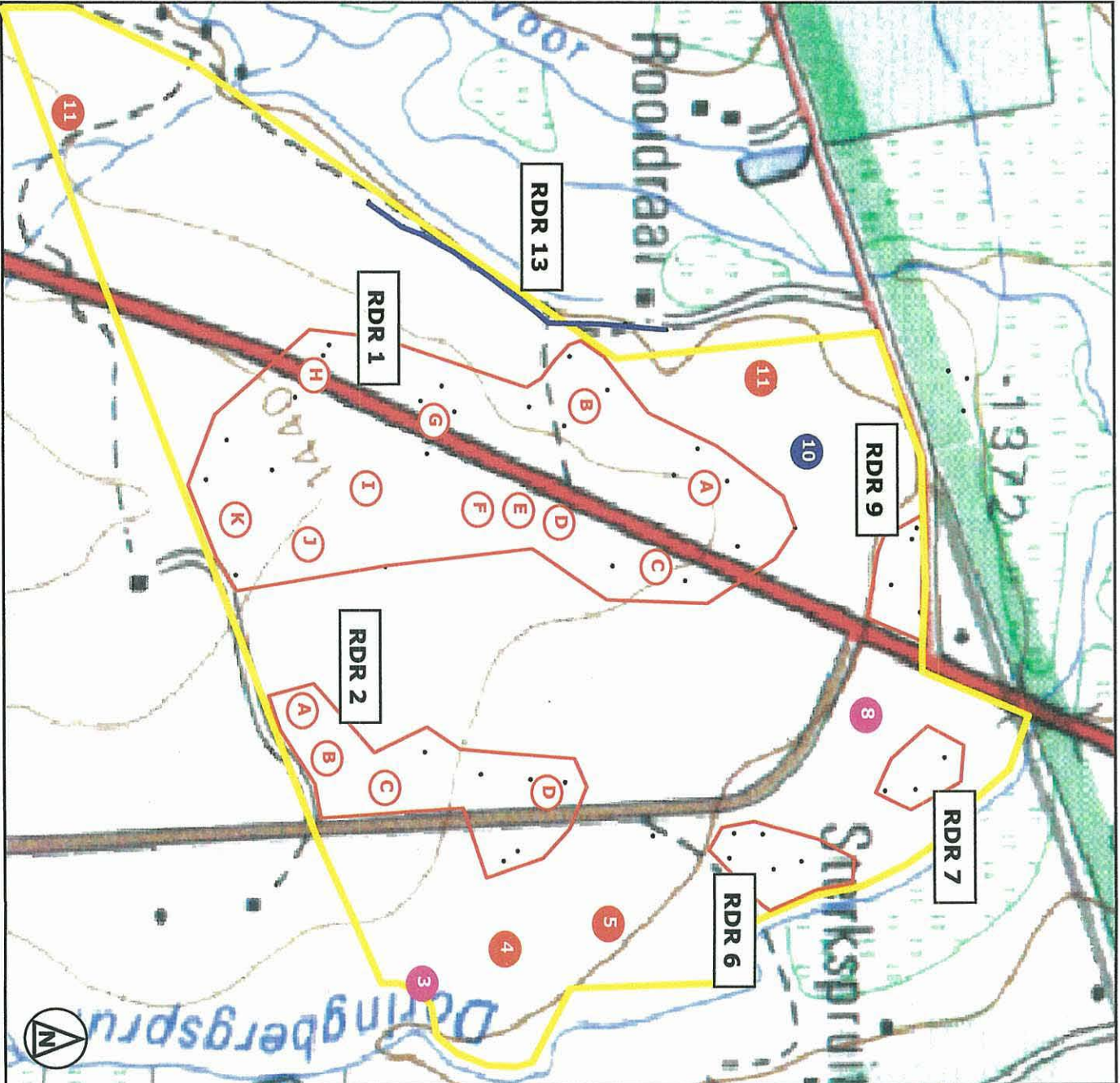




ANNEXURE B – SITE DISTRIBUTION MAPS










MORNING TIDE DEVELOPMENT COMPLEX - SITE DISTRIBUTION MAP

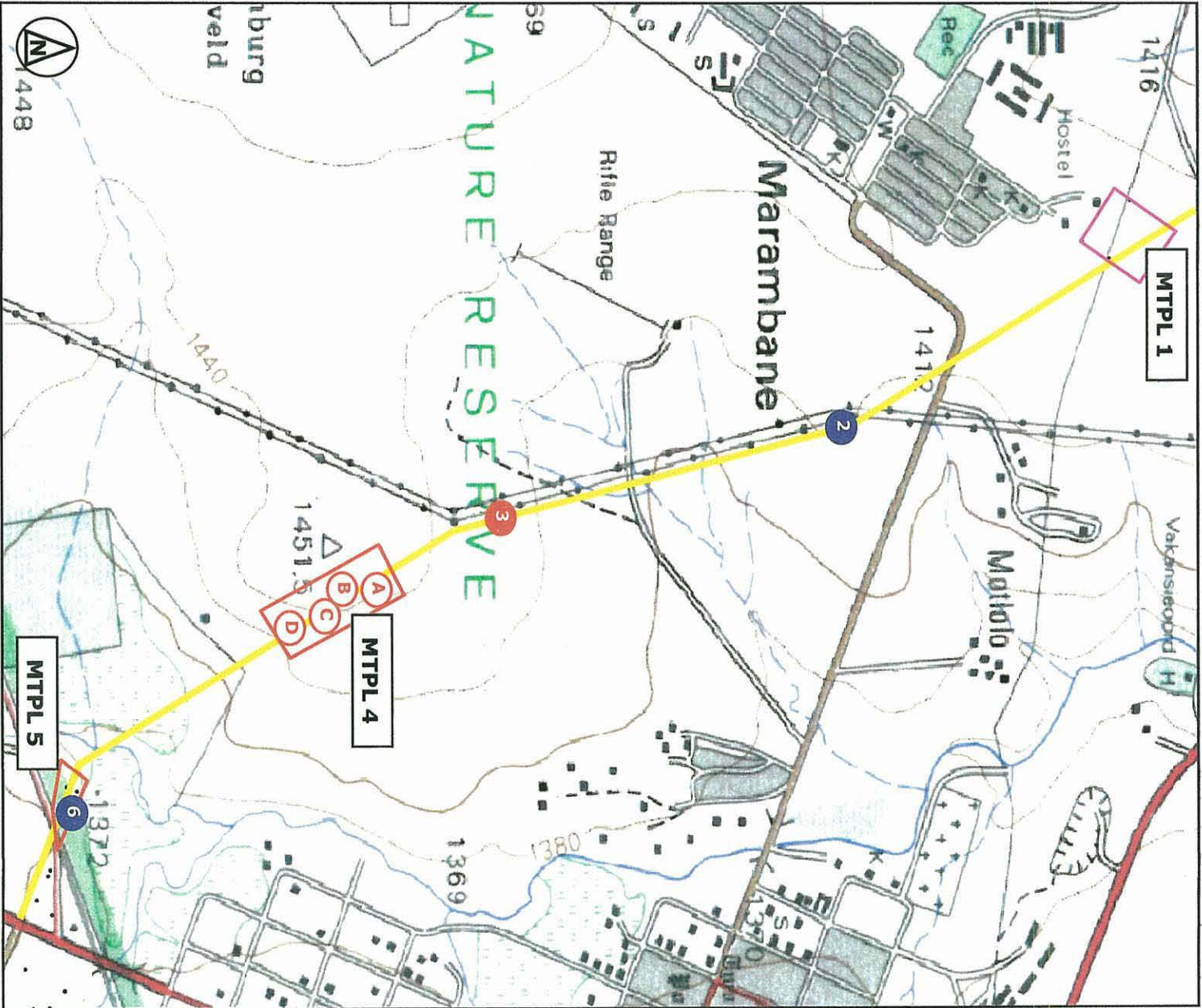


LEGEND

- LEGEND**






 -  Iron Age Settlement Areas
 -  Iron Age Enclosure Units
 -  Iron Age Sites
 -  Development Area
 -  Iron Age Rock Engravings
 -  Historic Sites
 -  Historic Roads

MORNING TIDE POWER LINE - SITE DISTRIBUTION MAP

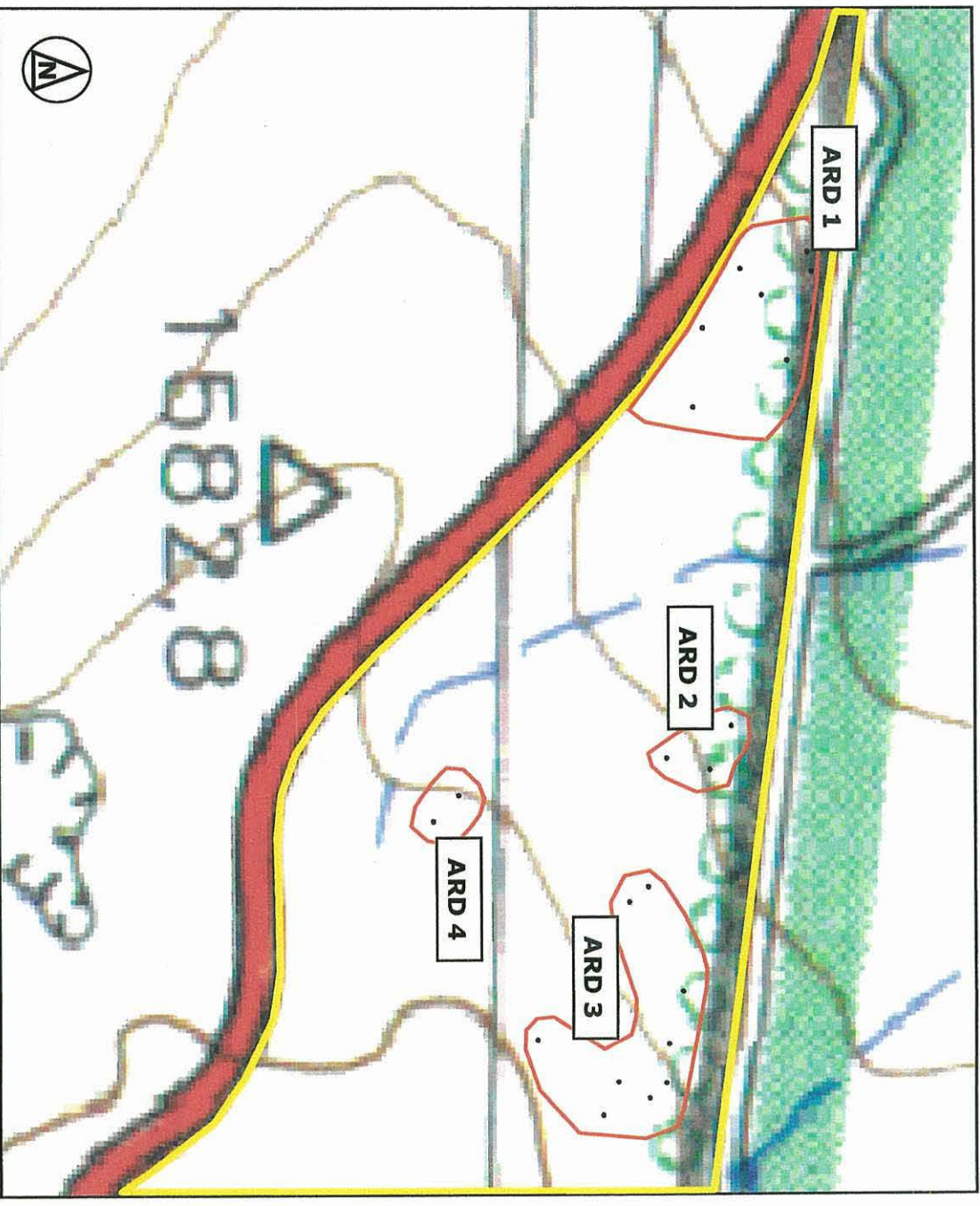


LEGEND

- ### LEGEND

 Iron Age Settlement Areas	 Development Area
 Iron Age Enclosure Units	 Historic Sites
 Iron Age Sites	 Cemeteries

ABRINA RESIDENTIAL DEVELOPMENT – SITE DISTRIBUTION MAP



LEGEND



Iron Age Sites



Development Area

ANNEXURE C – LEGISLATIVE FRAMEWORK

LEGISLATIVE FRAMEWORK

South Africa has a number of legislative measures in place aimed at protecting its heritage resources. Of these the most important is the National Heritage Resources Act 25 of 1999.

1. National Heritage Resources Act 25 of 1999

The promulgation of the National Heritage Resources Act 25 of 1999 brings the conservation and management of heritage resources in South Africa on par with international trends and standards.

Section 38 (3) of the act provides an outline of ideally what should be included in a heritage report. The act states:

"(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) an assessment of the impact of the development on such heritage resources;*
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development."*

Replacing the old National Monuments Act 28 of 1969, the Heritage Resources Act offers general protection for a number of heritage related features and objects (see below).

Structures are defined by the Heritage Resources Act as "...any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated with it." In section 34 of the Act the general protection for structures is stipulated. It is important to note that only structures older than 60 years are protected. Section 34(1) of the National Heritage Resources Act reads as follows: "No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority."

The second general protection offered by the Heritage Resources Act which is of relevance for this project, is the protection of **archaeological sites and objects (as well as paleontological sites and meteorites)**. Section 35(4) of the National Heritage Resources Act states that:

"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 from 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 order to understand exactly what is protected, it is important to look at the definition of the concept "**archaeological**" set out in section 2(ii) of the Heritage Act:

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

- (b) 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 which is older than 100 years, including any area within 10m of such representation;*
- (c) 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 maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 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; and*
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;..."*

The third important general protection offered by the Heritage Resources Act that is of importance here, is the protection of **graves and burial grounds**. Section 36(3) of the National Heritage Resources Act states that:

"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."*

Of importance as well is section 36 (5), which relates to the conditions under which permits will be issued by the relevant heritage authority should any action described in section 36 (3), be taken. Section 36(5) reads that:

"SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –

- a) *made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and*
- b) *reached agreements with such communities and individuals regarding the future of such grave or burial ground."*

This section of the Act refers to graves and burial grounds which are older than 60 years and situated outside of a formal cemetery administered by a local authority.

Section 36 (6) of the act refers to instances where previously unknown graves are uncovered during development and other activities.

"Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

- a) *carry out an investigation for the purpose of obtaining information on whether or not such a grave is protected in terms of the Act or is of significance to any community; and*
- b) *if such a grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangement for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any arrangements as it deems fit."*

2. Other Legislation

In terms of graves, other legislative measures which may be of relevance include the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.