



# Phase 1 Heritage Impact Assessment

Proposed Development of Farrar Park Ext. 2  
Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province

Project No: HU-2010-P112-FP2

Version 01

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Author: Polke D. Birkholtz

Client Name: Marsh Environmental Services (Mr. Steven Ingle)

## EXECUTIVE SUMMARY

PGS Heritage and Grave Relocation Consultants was appointed by Marsh (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment for the proposed Farrar Park Ext. 2 development located near Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province. The proponent is DRD Gold Limited.

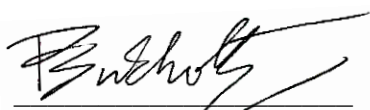
An archival and historical study was undertaken which revealed various aspects of the area's history. It showed that no significant heritage features can be associated with the study area before June 1947. During the period 1947 to 1952 mining-related development in the form of a railway line, loading platform and mine dump was built.

A field survey of the proposed footprint has revealed two poorly preserved structures. Site 1 is a reasonably large concrete structure which is associated with a railway line linking it to the South East Vertical shaft further to the north-east. Site 2 is a smaller rectangular concrete foundation. With the information obtained through the desktop study it became clear that Site 1 was constructed between 1947 and 1952, whereas Site 2 was constructed between 1952 and 1970.

Both structures will have to be destroyed to allow the development to take place. Site 2 is deemed to be of no heritage significance, and no further mitigation measures would be required for it. The following mitigation measures are required for Site 1:

- Search through the engineering plans housed at the South East Vertical shaft to see if an engineering drawing can be found.
- Recording of structure in the field through measured drawing and photographs. Should a detailed and accurate drawing be found only photographs and some corrections would be required in the field.
- A document must be compiled from the recorded data and submitted to PHRA-Gauteng with an application to have the structure demolished.

It is the opinion of the author of this report that in terms of the heritage aspects addressed as part of the defined scope of work (see Section 3) and on the condition that the report recommendations are adhered to, the development may continue.



Polke D. Birkholtz  
Director

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## **1. INTRODUCTION**

PGS Heritage and Grave Relocation Consultants was appointed by Marsh (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment for the proposed Farrar Park Ext. 2 development located near Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province. The proponent is DRD Gold Limited.

## **2. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT**

### **2.1 Study Area**

The study area comprises a portion of land located along a tributary of the Elsburg Stream. The side of the study area located closest to the stream is topographically the lowest point whereas the opposite (eastern) end is the highest. As a result the study area can be described as sloped. In terms of vegetation the largest component of the site is characterised by open grassland, with small to large pockets of exotic trees found across the entire area.

The study area can be described as largely disturbed. Evidence for past earthmoving activities were found in various areas and the remains of mining associated activities dating to the latter half the previous century were also found. More than one surface pipeline also crosses over the area.

As indicated above, the western boundary of the study area is defined by a tributary of the Elsburg Stream, though it is located some distance away from it. The northern section of the eastern boundary of the site is defined by the western edge of Farrar Park. The remainder of the boundaries are not so well defined in the landscape.

### **2.2 Proposed Development**

The proposed development comprises six sections, four of which will be used for Residential 3 development. The remaining two sections are earmarked for park development. Access will be provided from Beit Avenue and new roads will provide access through the development.

Refer Figure 1 below.





Plate 1      General view of a section of the study area.



Plate 2      This pipeline represents one of the man-made disturbances found on site.



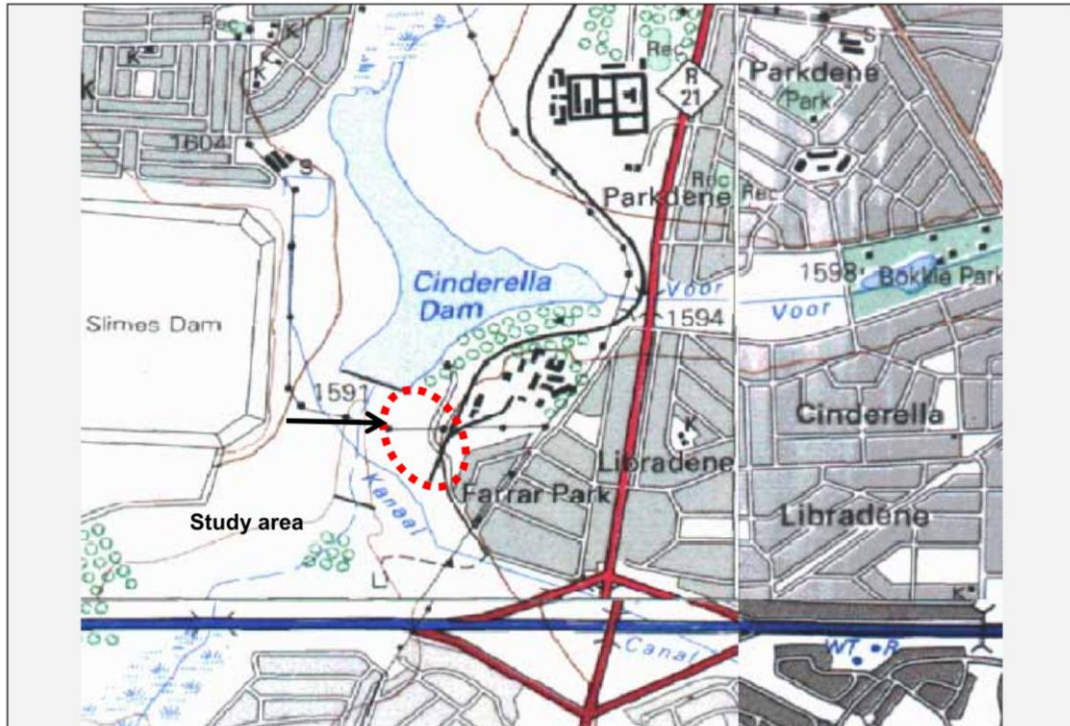


Figure 1: Locality Plan indicating the study area



Figure 2: Layout plan and associated infrastructure overlaid on aerial photograph

Figure 1 This image was supplied by the client. It shows the development layout plan (top) and a Google Image with the study area's boundaries depicted in red line (bottom).

### **3. SCOPE OF WORK**

The aim of the Heritage Impact Assessment is to locate any heritage resources situated within the study area, assess their respective levels of significance, evaluate the impact of the proposed development on these sites and provide mitigation measures should these sites be negatively impacted upon.

The National Heritage Resources Act (25 of 1999) provides a very comprehensive list of what the national estate may consist of. This list includes:

1. Places, buildings, structures and equipment of cultural significance
2. Places to which oral traditions are attached or which are associated with living heritage
3. Historical settlements and townscapes
4. Landscapes and natural features of cultural significance
5. Geological sites of scientific or cultural importance
6. Archaeological and palaeontological sites
7. Graves and burial grounds
8. Sites of significance relating to the history of slavery in South Africa
9. Movable objects such as military objects and ethnographic art.

With the exception of 'geological sites of scientific or cultural importance' as well as 'palaentological sites' all these items are covered in the scope of this study's work.

Furthermore, it must be noted as well that this study focussed on the identification of tangible heritage resources. As a result very little work was undertaken in terms of intangible heritage (i.e. ritual or spiritual aspects of the area, indigenous knowledge systems and living heritage).

### **4. METHODOLOGY**

#### **4.1 Desktop Study**

The desktop study's aim is to compile as much available information as possible on the heritage resources of the area and thereby also providing historical context for any located sites. The focus in the study was placed on archival and historical maps.

## **4.2 Field Surveys**

The field surveys were undertaken on Friday, 29 April 2011. Location data was captured with a Garmin MAP60CS handheld GPS receiver, loaded with a Garmap South Africa Topographic & Recreation v1.00 base map. Photographs were taken with a Canon Powershot A550 digital camera.

## **4.3 Consulting with Local Interested and/or Affected Parties**

A public participation process was undertaken by Marsh (Pty) Ltd. The process comprised newspaper advertisements, site notices and distribution of Background Information Documents to residents, homeowners associations, ward councillor and interest groups.

A number of informal discussions took place with members of the public encountered during the fieldwork undertaken by PGS Heritage & Grave Relocation Consultants. These individuals were asked whether they knew of any graves, old buildings or other heritage sites in the area.

## **4.4 Aspects regarding Visibility and Constraints**

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary 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 until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This is true for graves and cemeteries as well.

# **5. LEGISLATIVE REQUIREMENTS AND TERMINOLOGY**

## **5.1 Legislation**

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:



- National Environmental Management Act (NEMA) Act 107 of 1998
- National Heritage Resources Act (NHRA) Act 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources:

- National Environmental Management Act (NEMA) Act 107 of 1998
  - Basic Environmental Assessment (BEA) – Section (23)(2)(d)
  - Environmental Scoping Report (ESR) – Section (29)(1)(d)
  - Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
  - Environmental Management Plan (EMP) – Section (34)(b)
- National Heritage Resources Act (NHRA) Act 25 of 1999
  - Protection of Heritage resources – Sections 34 to 36; and
  - Heritage Resources Management – Section 38
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
  - Section 39(3)
- Development Facilitation Act (DFA) Act 67 of 1995
  - The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

Refer Annexure C for an overview of the National Heritage Resources Act (25 of 1999).

## **5.2 Terminology**

### ***Archaeological resources***

This includes:

- 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;
- 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;
- 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 in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;

- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

### ***Cultural significance***

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

### ***Development***

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land;
- any removal or destruction of trees, or removal of vegetation or topsoil

### ***Heritage resources***

This means any place or object of cultural significance

## **6. ASSESSMENT CRITERIA**

This chapter describes the evaluation criteria used for the sites listed below. The four main criteria used in the evaluation of archaeological sites are:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g. stonewalling and stone tools),

- **uniqueness** and
- **potential** to answer present research questions.

In terms of heritage sites, Section 3 (3) of the National Heritage Resources Act 25 of 1999 states that a place or object is considered part of the national estate if it has cultural significance or other special value because of:

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

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

- A - No further action necessary;
- B - Mapping of the site and controlled sampling required;
- C - Preserve site, or extensive data collection and mapping of the site; and
- D - Preserve site

## 6.1 Impact

The potential environmental impacts that may result from the proposed development.

### 6.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

## 6.2 Evaluation

### 6.2.1 Site significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	-	Low Significance	Destruction

### 6.2.2 Impact rating

#### VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in **severe** or **very severe** effects, or **beneficial** or **very beneficial** effects.

**Example:** The loss of a species would be viewed by informed society as being of VERY HIGH significance.

**Example:** The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

### *HIGH*

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

**Example:** The loss of a diverse vegetation type, which is fairly common elsewhere, would have a HIGH significance over the long term, as the area could be rehabilitated.

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

### *MODERATE*

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

**Example:** The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

**Example:** The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

### *LOW*

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.



**Example:** The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.

**Example:** The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

#### *NO SIGNIFICANCE*

No primary or secondary effects at all that are important to scientists or the public.

**Example:** A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

### **6.2.3 Certainty**

*DEFINITE:* More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

*PROBABLE:* Over 70% sure of a particular fact, or of the likelihood of impact occurring.

*POSSIBLE:* Only over 40% sure of a particular fact or of the likelihood of an impact.

*UNSURE:* Less than 40% sure of a particular fact or likelihood of an impact occurring.

### **6.2.4 Duration**

*SHORT TERM:* 0 to 5 years

*MEDIUM:* 6 to 20 years

*LONG TERM:* more than 20 years

*DEMOLISHED:* site will be demolished or is already demolished

Evaluation Example

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B

## **7. FINDINGS**

### **7.1 Desktop Study Findings**

#### **7.1.1 Findings from Maps and Aerial Photographs**

##### **7.1.1.1 1947 Plan**

An enlarged section of the June 1947 plan is depicted in Figure 2. The plan indicates the surface rights in place at the time on top of ERPM mining land. No heritage features are depicted within the study area. In general terms, it is worth noting that the South East Vertical Shaft is not yet shown.

Five heritage features are depicted close to the study area (see red markers):

- Feature 1

A farmstead is located here. From the information depicted on the map it would appear as if the farmstead was owned by one T.H. Allers.

- Feature 2

The Cinderella Dam and dam wall are depicted here.

- Feature 3

A building is depicted in the general vicinity of where the clubhouse of the East Rand Yacht Club can still be seen today.

- Feature 4

One building is depicted here. It is associated with a cluster of four buildings further south-east. These buildings were all likely associated, and may have formed part of a farmstead.

- Feature 5

A cluster of four buildings is located here and may be associated with the single building further to the north-west. These buildings were all likely associated, and may have formed part of a farmstead.

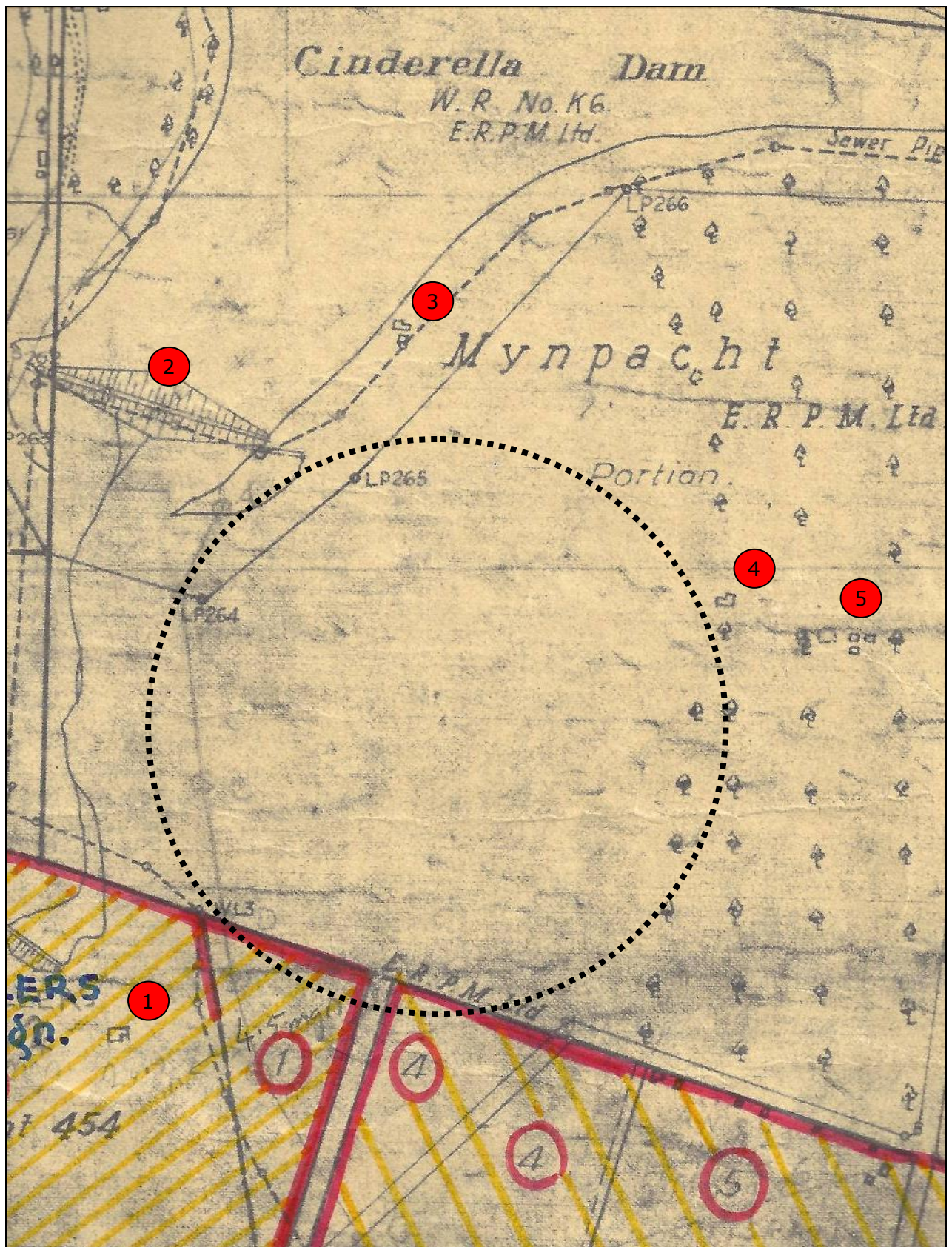


Figure 2 Enlarged section of the 1947 plan. The circle indicates the approximate position of the study area.

### **7.1.1.2 1952 Aerial Photograph**

An enlarged section of the 1952 aerial photograph is depicted in Figure 5. Four features are depicted within the study area (see red markers with arrows):

- Feature 1

A mine heap is located here. It is associated with ERPM's South East Vertical shaft, from where material was transported by way of a railway line to this point.

- Feature 2

The railway line discussed above is located here.

- Feature 3

A structure is located here and from its position on the railway line must have been a loading platform to load material from the railway trucks.

- Feature 4

A pipeline is located here.

Four observations can be made from the direct surroundings of the study area:

- Feature 5

What appears to be an old farmstead is located here.

- Feature 6

The Cinderella Dam and dam wall are located here.

- Feature 7

The clubhouse of the East Rand Yacht Club is located here.

- Feature 8

The South East Vertical Shaft with associated infrastructure is located here.



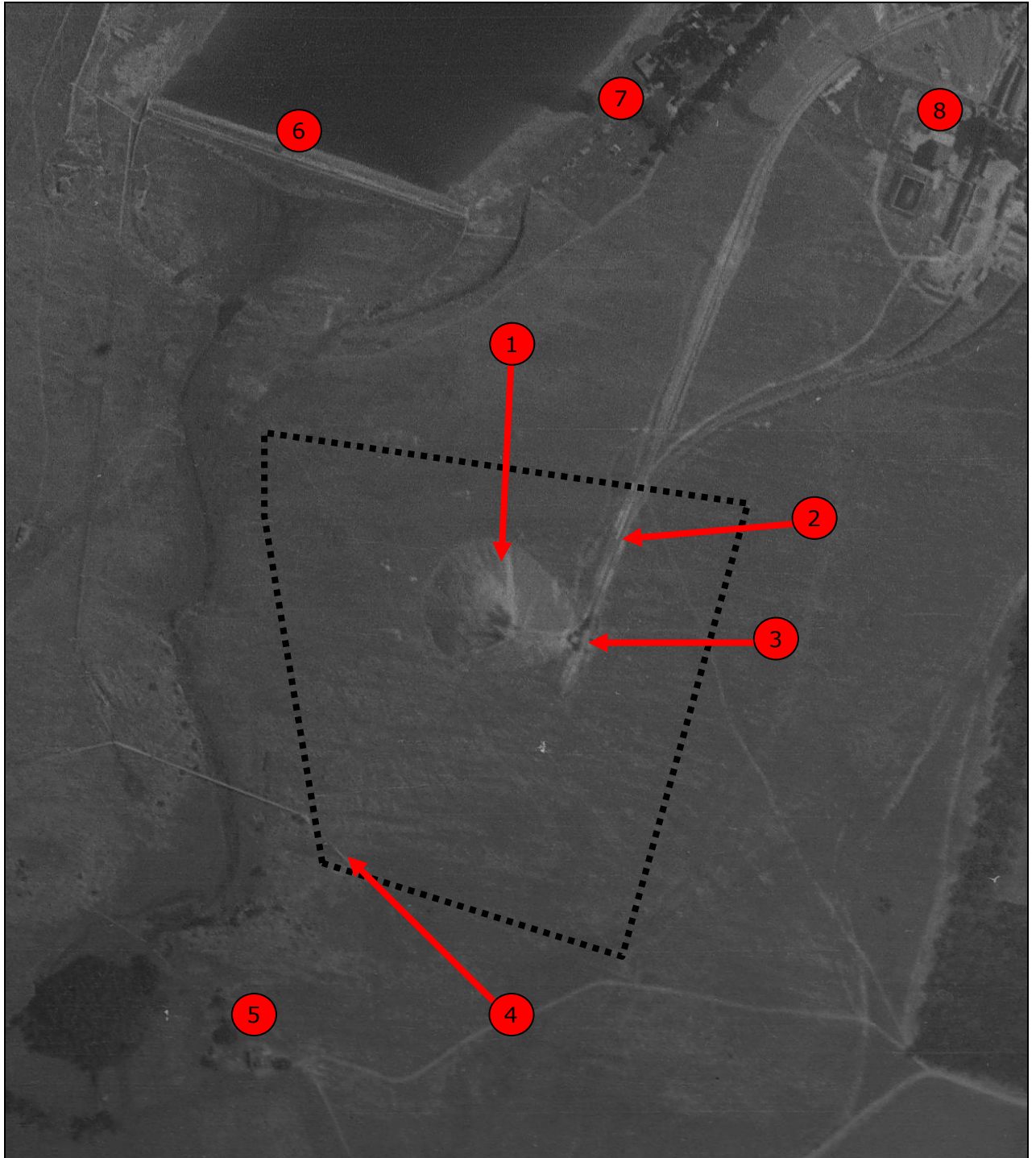


Figure 3 Enlarged section of the 1952 aerial photograph. The approximate boundaries of the study area are shown in black dotted line.



### **7.1.1.3 1970 Aerial Photograph**

An enlarged section of the 1970 aerial photograph is depicted in Figure 6. Four features are depicted within the study area (see red markers with arrows):

- Feature 1

A mine heap is located here. It is associated with ERPM's South East Vertical shaft, from where material was transported by way of a railway line to this point. A comparison of this aerial photograph with the 1952 one clearly shows how the mine heap has expanded in the 18 years between these two dates.

- Feature 2

The railway line discussed above is located here.

- Feature 3

A structure is located here and from its position on the railway line must have been a loading platform to load material from the railway trucks.

- Feature 4

A conveyor belt structure is located here.

Four observations can be made from the direct surroundings of the study area:

- Feature 5

The residential suburb known as Farrar Park is shown for the first time.

- Feature 6

The Cinderella Dam and dam wall are located here.

- Feature 7

The clubhouse of the East Rand Yacht Club is located here.

- Feature 8

The South East Vertical Shaft with associated infrastructure is located here.

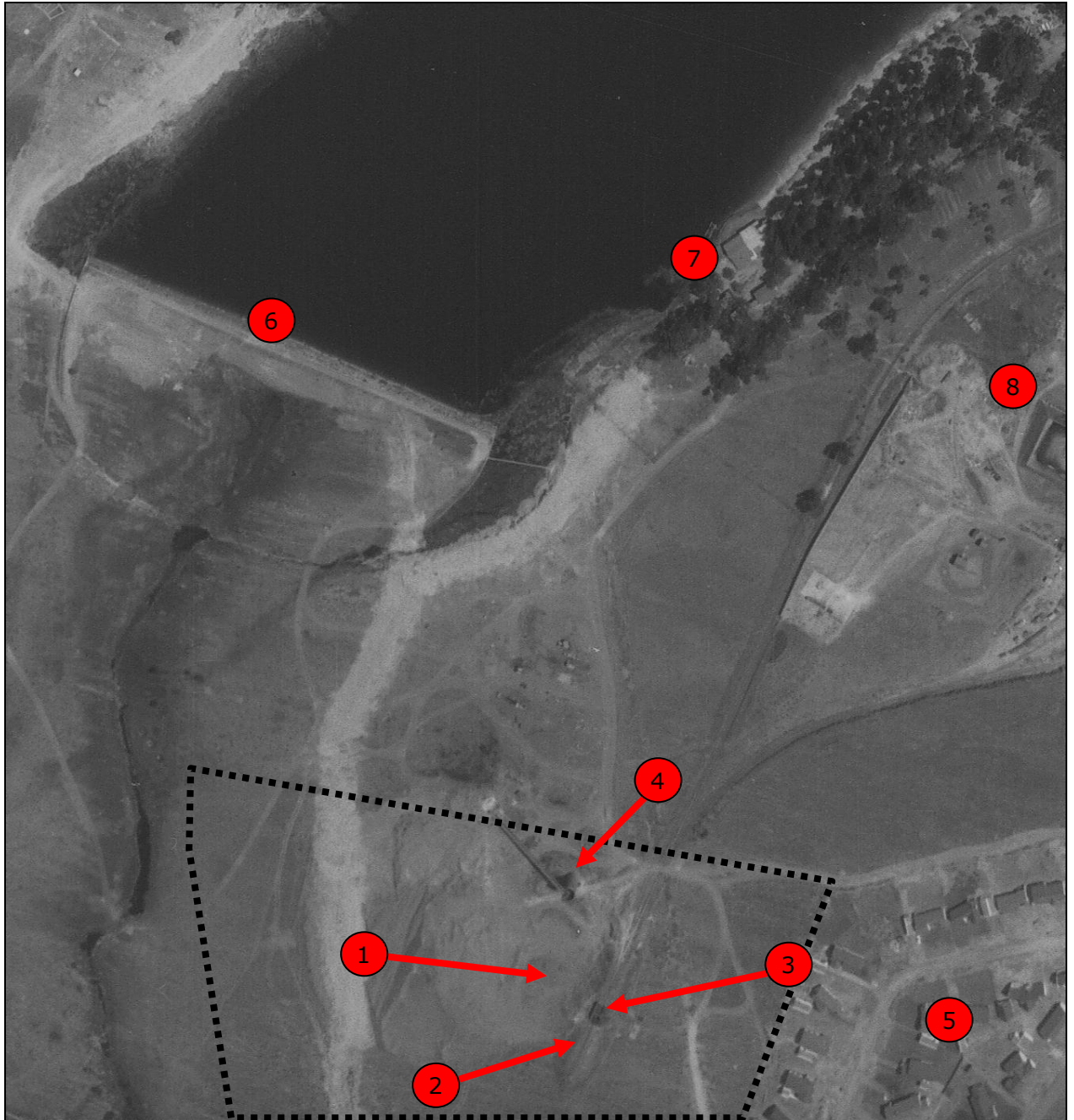


Figure 4 Enlarged section of the 1970 aerial photograph. The approximate boundaries of the study area are shown in black dotted line. It is evident from this image that only the northern half of the study area is shown.

### 7.1.2 Historic overview of the wider area

DATE	DESCRIPTION
2.5 million to 250,000 years ago	The Earlier Stone Age is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these phases is known as the Oldowan which is associated with crude flakes and hammer stones and dates to approximately 2 million years ago. The second technological phase known as the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial handaxe. The Acheulian phase dates back to approximately 1.5 million years ago.
250,000 to 40,000 years ago	The Middle Stone Age is the second oldest phase identified in South Africa's archaeological history. It is associated with flakes, points and blades manufactured by means of the prepared core technique.
40,000 years ago to the historic past	The Later Stone Age is the third phase identified in South Africa's archaeological history. It is associated with an abundance of very small stone artefacts known as microliths.
September 1886	A young man by the name of Pieter J.J.D Killian discovered gold-bearing reefs on the farms Leeuwpoot and Vogelfontein (Boksburg Town Council, n.d.).
March 1887	The farms Leeuwpoot and Vogelfontein were proclaimed as public diggings (Boksburg Town Council, n.d.).
July 1887	The new village which appeared as a result of the gold discoveries on the farms Leeuwpoot and Vogelfontein was named Boksburg in honour of the State Secretary of the <i>Zuid-Afrikaansche Republiek</i> , Dr. W.E. Bok (Boksburg Town Council, n.d.).
December 1887	Coal was discovered by J.L. Gauf on the eastern end of present-day Boksburg. The discovery of coal meant that the severe shortage of fuel in the surroundings of Boksburg which hampered the development of early gold mining activities, could be addressed (Boksburg Town Council, n.d.).
1889	A number of gold mining companies were established in the Boksburg area. These included the <i>Blue Sky Gold Mining Company</i> , the <i>Cinderella Gold Mining Company</i> , the <i>Agnes Munro Gold Mining Company</i> , the <i>Comet Main Reef Gold Mining Company</i> , the <i>St. Angelo Gold Mining Company</i> and the <i>Driefontein Gold Mining Company</i> (Letcher, 1936).
November 1890	The Boksburg Goldfields were proclaimed a separate administrative unit with Montagu White as it's first Mining Commissioner. During the two years that White filled this post he constructed the Boksburg Lake and also planted some 40,000 trees in a higher lying area north-west of the lake (Boksburg Town Council, n.d.).

1892	Sir George Farrar and his associate Carl Hannau bought large quantities of shares in gold mining companies experiencing financial difficulties during this time, including the Blue Sky, Cinderella, Agnes Munro, Comet, St. Angelo and Driefontein (Letcher, 1936).
September 1892	The shares acquired by Farrar and Hannau were ceded to the H.F. Syndicate (Letcher, 1936).
May 1893	During this time these shares in the mining companies were taken over by the newly established East Rand Proprietary Mines (or ERPM) (Letcher, 1936). This company was established on 8 May 1893 with Sir George Farrar as chairman and C.S. Goldmann, Lionel Phillips, J.C.A. Henderson and S.W. Jameson as directors.
1894 - 1895	<p>During this time ERPM reconstructed the Comet, Driefontein and St. Angelo gold mines through the provision of both working capital and land. The latter mine was re-established as the <i>Angelo Gold Mining Company Limited</i>.</p> <p>By the mid 1890s ERPM held great sway across the goldfields of Boksburg.</p>
1899 – 1902	<p>The South African War between Great Britain and the two Boer republics of the Zuid-Afrikaansche Republiek and the Free State.</p> <p>By the time that hostilities commenced on 11 October 1899, a massive exodus of British subjects from the Witwatersrand had already started. This exodus was supported by large numbers of black mineworkers who returned to their homes. Although the mining companies tried to stem the flood by offering attractive bonuses and salary increases, this had little effect. Before long all the gold mines along the Witwatersrand were forced to shut down.</p> <p>While the government of the <i>Zuid-Afrikaansche Republiek</i> intervened by appointing a State Board to carry on with mining activities on some of the mines, this proved a losing battle.</p> <p>During roughly the last two years of the war (a period known as the guerrilla phase) a number of the gold mines in the vicinity of Boksburg were attacked by Boer Commandoes. For example, the New Kleinfontein Gold Mine on the farm Driefontein was attacked by a Boer force under General Piet Viljoen. The mine manager E.J. Way was taken prisoner, but released on the same day. Another attack took place at the Moddefontein Mine as well. These attacks led to the establishment of a British force known as the Rand Rifles Mine Division to protect the mines. The force repulsed a number of attacks on the mines along the Witwatersrand. During November 1901 the mines were declared safe from attack and the unit was disbanded.</p> <p>On 4 May 1901 the Meyer and Charlton became the first gold mine along the Witwatersrand to start working again. A number of other gold mines followed suit, though it would take another three to four years before the mines managed to return to their pre-war production figures (Lang, 1986).</p>

22 June 1904	After years of debate and deliberation, the first group of Chinese mine workers finally arrived at the East Rand Station to start working at the New Comet mine. This meant that the New Comet mine became the first gold mine anywhere along the Witwatersrand to make use of Chinese mine workers (Lang, 1986). A large number of other gold mines along the Witwatersrand followed suit as a way of addressing the serious shortage of labour brought about by the recent war. By the end of 1904 the number of Chinese mine workers employed on the Witwatersrand gold mines stood at 21,000 individuals, and by the end of the following year increased to 47,000 (Von Ketelhodt, 2007).
2 July 1907	On this day a letter was written by the <i>General Mining and Finance Corporation Limited</i> and addressed to the Registrar of Mining Rights for <i>Cinderella Deep Limited</i> to erect a dam on a water right held by the <i>South Cinderella Deep Limited</i> (MMB, 78, DRK798/07).  Although the exact date of its completion is not known, it appears to have been during or around 1909.
1909	The Anglo-French Group under chairmanship of Sir George Farrar undertook the reconstruction of the East Rand Proprietary Mines as an amalgamated entity. The amalgamation entailed the absorption of a number of smaller mining companies by ERPM, including <i>Driefontein Consolidated Mines Limited</i> , <i>Angelo Gold Mines Limited</i> , <i>New Comet Gold Mining Company Limited</i> , <i>Cason Gold Mines Limited</i> , <i>New Blue Sky Gold Mining Company Limited</i> , <i>Hercules Company Limited</i> , <i>Angelo Deep Gold Mines Limited</i> and the <i>H.F. Company Limited</i> . At the end of the reconstruction process ERPM held some 4,000 mining claims, several water rights and a few mining stands. ERPM was now one of the largest gold mines in the world.
March 1910	The last of the Chinese mineworkers left the Witwatersrand gold mines to return back home (Chilvers, 1932).
1914-1918	The First World War took place during this time, and was essentially a war between Great Britain and Germany. It had a significant negative impact on the gold mines of the Witwatersrand in that it did not only result in a rise of mining cost, but also led to a shortage of skilled European workers with many of them responding to the call to fight. However, apart from these one aspect which specifically had a very detrimental effect on the financial position of the gold mines along the Witwatersrand was the fact that all these mines had signed an agreement in 1914 that all the gold produced in South Africa would be sold for the duration of the war to the Bank of England at a fixed price of £3 17s 9d. Although this agreement initially looked very attractive, as the war carried on the rising cost of mining made the fixed price increasingly unprofitable (Cartwright, 1968).
1915	ERPM came under the control of the Central Mining and Investment Corporation (Lang, 1986).



1926	ERPM acquired the Cinderella Gold Mining Company (Cartwright, 1968). Through this acquisition a considerable body of payable ore became available to ERPM.
28 December 1932	On this day South Africa abandoned the gold standard ( <a href="http://www.sahistory.org.za">www.sahistory.org.za</a> ). This resulted in the price of gold shooting up by an incredible 66% to £7.10 per ounce ( <a href="http://www.pamodzigold.co.za">www.pamodzigold.co.za</a> ). A boom in gold mining shares was the result with everyone buying shares in South Africa's gold mines.
c. 1948	ERPM's South East Vertical shaft was established during this time. It is located a short distance north-east of the study area.
November 1955	Underground workings at ERPM reached a depth of 10,000 feet (Cartwright, 1968).
May 1958	A winze at ERPM reached a depth of 11,000 feet. This meant that ERPM was officially the deepest mine in the world (Cartwright, 1968), a record it held until 2008.
1961	The newly constructed Central Reduction Works started operating in this year with a capacity of 200,000 tons a month (Beerman, 1964). It was constructed during the previous three years.

### 7.1.3 Historic overview of the study area


DATE	DESCRIPTION
June 1947	At the time no man-made features were located within the study area. In the surrounding landscape work on the South East Vertical shaft has also not yet started. It is fair to say that the study area would likely have been undisturbed during this time.
1947 - 1952	<p>This period can be considered the height of mining development within the study area. From the mining features constructed within the site at the time it is evident that it was earmarked for the establishment of a mine dump by ERPM's South East Vertical shaft. A railway line was constructed from the shaft and ended within the north-eastern section of the study area. At this point a railway loading platform was constructed. It is evident that material from the South East Vertical shaft was now transported via the railway line to the loading platform, where it was offloaded. The end result was the formation of a mine dump a short distance west of the loading platform.</p> <p>In the south-western corner of the study area a pipeline was also built.</p>
1952 - 1970	During this time the expansion of the existing mine dump is shown. A conveyor belt construction was also built.

## 7.2 Public Participation Findings

No heritage related issues were raised during the public participation process undertaken by Marsh (Pty) Ltd. No heritage sites or features were identified during the informal discussions with local residents.

## 7.3 SURVEY FINDINGS

Two structures were identified during the field survey.

Nr	Building description with photographs
1.	<p data-bbox="341 712 866 745"><b>Loading Platform and Railway Line</b></p> <p data-bbox="341 779 1473 936">The site comprises a large rectangular concrete structure (12m x 5m x 2m). It is orientated along the northeast-southwest axis, and has the remnants of a railway line leading from the South East Vertical shaft (north-east of the site) directly into it. It seems likely therefore that the structure was used as a loading platform to load material of the railway trucks to be discarded on the nearby mine heap.</p> <p data-bbox="341 969 1473 1037">The condition of the building is poor as is the condition of the adjacent railway line. In terms of the railway line the tracks have all been removed.</p> <p data-bbox="341 1070 1473 1205">Neither the structure nor the railway line associated with it is depicted on the June 1947 plan. However they are both indicated on the 1952 aerial photograph. This indicates that they were constructed between 1947 and 1952, and are between 64 and 59 years old. They are therefore very likely just more than 60 years old.</p> 

## 2. Foundation of unknown structure

The site comprises a small rectangular concrete foundation structure (8m x 4m). Its condition is poor with little more than the foundation remaining. A number of thick steel bars are embedded in the concrete, and have the appearance of a railway track. It is possible that the structure had something to do with the nearby loading platform and railway line.

The structure is not depicted on the 1952 aerial photograph and is therefore younger than 60 years.

On the inside of one of the steel bars the following inscription was embossed: '*Dorman, Long & Co Ld Middlesbrough England*'. This company was a very well known British steel producer. It was established in 1875 by Arthur Dorman and Albert de Laude Long and in 1967 became part of British Steel ([www.wikipedia.com](http://www.wikipedia.com)).

This seems to indicate that the structure was constructed between 1952 and 1967. This date is supported by its appearance for the first time on the 1970 aerial photograph.



## **8. HERITAGE SIGNIFICANCE OF THE IDENTIFIED SITES**

As shown above, two structures were identified during the field survey.

- Site 1

The site is a poorly preserved concrete structure associated with the more recent mining history of the East Rand Proprietary Mines and Boksburg. As such it has little political or historical value, no scientific value, little social value, some historical value and no association with the history of slavery. The site is deemed to be of Low to Medium Significance.

- Site 2

The site is a poorly preserved concrete structure associated with the very recent mining history of the East Rand Proprietary Mines and Boksburg. It is certainly younger than 60 years and as a result has no heritage significance.

## **9. COMPARISON OF SOCIO-ECONOMIC BENEFITS AND THE HERITAGE IMPACT**

The following socio-economic benefits are expected from the proposed development:

- Short-term employment opportunities will be created during the construction phase of the project. New employment opportunities during construction amounts to 4,530 (in person days), the value of which is in the region of R420,000.
- The proposed development will assist in addressing the housing shortage experienced in the Boksburg area
- The development will represent a financial investment into the local economy. The capital value of the proposed development is R7.9 million.

If one considers the fact that the fieldwork only identified two heritages sites, one which deemed to be of Low to Medium Significance and the other of no heritage significance, the heritage impact of the proposed development will be low to none existent. As a result, if a comparison is made between the socio-economic benefits of the proposed development and this very low impact on the heritage resources of the area it is believed that the envisaged socio-economic benefits will far outweigh the heritage impact of the proposed development.

## **10. CONCLUSIONS AND GENERAL RECOMMENDATIONS**

PGS Heritage and Grave Relocation Consultants was appointed by Marsh (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment for the proposed Farrar Park Ext. 2 development located near Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province. The proponent is DRD Gold Limited.

An archival and historical study was undertaken which has revealed various aspects of the area's history. It showed that no significant heritage features can be associated with the study area during the period before June 1947. During the period 1947 to 1952 some mining-related development in the form of a railway line, loading platform and mine dump was undertaken.

A field survey of the proposed footprint has revealed two poorly preserved structures. Site 1 is a reasonably large concrete structure which is associated with a railway line linking it to the South East Vertical shaft further to the north-east. Site 2 is a smaller rectangular concrete foundation. With the information obtained through the desktop study it became clear that Site 1 was constructed between 1947 and 1952, whereas Site 2 was constructed between 1952 and 1970.

Both structures will have to be destroyed to allow the development to take place. Site 2 is deemed to be of no heritage significance, and no further mitigation measures would be required for it. The following mitigation measures are required for Site 1:

- Search through the engineering plans housed at the South East Vertical shaft to see if an engineering drawing can be found.
- Recording of structure in the field through measured drawing and photographs. Should a detailed and accurate drawing be found at the abovementioned facility, only photographs and some corrections would be required in the field.
- The recorded data must be compiled in a report and submitted to the Provincial Heritage Resources Agency Gauteng with an application to have the structure demolished.

It is the opinion of the author of this report that in terms of the heritage aspects addressed as part of the defined scope of work of this study (see Section 3) and on the condition that the recommendations contained in this report are adhered to, the development may be allowed to continue.

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**ANNEXURE A**  
**GOOGLE EARTH IMAGE OF STUDY**  
**AREA SHOWING LOCATED SITES**



**ANNEXURE B**  
**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.