PHASE 2 HERITAGE IMPACT ASSESSMENT

PROPOSED COMET EXTENSION 8 DEVELOPMENT LOCATED ON PORTION 406 OF THE FARM DRIEFONTEIN 85-IR, EKURHULENI METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE

PGS Heritage & Grave Relocation Consultants
Professional Grave Solutions (Pty) Ltd

Tel: 012 332 5305
Fax: 012 332 2625
Cell: 082 717 6661
E-mail: polke@lantic.net

Compiled for:

Mr. Danie van der Merwe
Urban Dynamics

Tel: 011 482 4131
Fax: 011 482 9959

Proponent:

Mr. Willie Vos
Business Venture Investments

Fax: 086 517 7866

Compiled by: P. Birkholtz in association with M. Naudé
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EXECUTIVE SUMMARY

Professional Grave Solutions was appointed by Urban Dynamics to undertake a Phase 2 Heritage Impact Assessment for the proposed establishment of the Comet Ext. 8 development on Portion 406 of the farm Driefontein 85-IR, Ekurhuleni Metropolitan Municipality, Gauteng Province. The proponent is Business Venture Investments.

This study is the result of a letter written by Ms. Tebogo Molokomme of SAHRA Gauteng in which a Phase 2 Heritage Impact Assessment was requested. Her letter was in reaction to the demolition of a number of buildings during 2007 some of which local Interested and Affected Parties indicated to have been designed by the famous architect Sir Herbert Baker. The letter furthermore indicated that such a study should include (but not be restricted to) the following:

- Clearly identify and map all the heritage resources (e.g. where these demolished structures were and what they looked like)
- Provide the historical background and exact ages of these demolished structures
- Provide mitigation measures and recommendations (e.g. how these demolished structures can best be memorialised).
- Follow the public participation process
- Provide aerial photograph of the site

The study has revealed that two different complexes of married quarters were located within the study area.

- The oldest complex of married quarters will be referred to in this report as the old married quarters. It was designed by an unknown architect or engineer, and certainly not Sir Herbert Baker. The complex was constructed between 1902 and 1905 and the entire complex consisted of a rectangular layout of 12 buildings. Each of these 12 buildings comprised six individual units intended for the use of a married couple and their children, which means that the complex comprised a total of 72 units. Only five individual buildings from this complex of married quarters were located within the present study area. These five units represented the north-eastern edge of the complex.
- The second complex of married quarters will be referred to in this report as the new married quarters. It was constructed between 1910 and 1911 and was designed by Sir Herbert Baker. While the entire complex comprised 13 individal buildings, four were located within the study area.

The following recommendations are made in the report:

- None of the Baker buildings that were demolished need to be reconstructed within the study area.
- New buildings of similar use and function should be designed in scale (not higher than a single storey along the street edges – single buildings deep) and 3 stories from about 50m set-back from the existing boundary of the site (southern boundary) and be aesthetically sympathetic to the existing architectural fabric of the direct neighbourhood.
- Use the existing (and historic) street pattern as guideline to design the new residential area.
- Blend the new street pattern with the existing street patterns of the surrounding neighbourhood.
- Make provision of a small area (30sqm) where appropriate memmorialisation of the site and its history can be designed in such a way that it is integrated into the total site development plan and forms part of the landscaping and public movement layout. Appropriate memorialisation could imply the construction of a pedestal (height: 800mm – by 1m by 1,5m) with a flat top on which a stone slab with some history and drawings are engraved or etched containing a short history of the mine and the fact that Herbert Baker designed some of the buildings. The latter must be done in granite and not in metal. The site must be located in an area where pedestrians and the public will be able to visit the spot and include it in their daily movement. If the entire development is fenced-in, the site for memorialisation should be part of such an area where the site is protected and forms part of the general site management plan of the development.

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 based on the condition that all the recommendations made in this report are adhered to, the development may be allowed to continue.

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1. INTRODUCTION

Professional Grave Solutions was appointed by Urban Dynamics to undertake a Phase 2 Heritage Impact Assessment for the proposed establishment of the Comet Ext. 8 development on Portion 406 of the farm Driefontein 85-IR, Ekurhuleni Metropolitan Municipality, Gauteng Province. The proponent is Business Venture Investments.

2. PROJECT BACKGROUND

The history of the development and its process up to the point where this study was commissioned is a long one and will be briefly outlined below. The information provided here was obtained from Mr. Danie van der Merwe of Urban Dynamics.

- In December 2005 the land (Portion 406 of the farm Driefontein 85-IR) was transferred from Witwatersrand Gold Mining Realisation Trust to Business Venture Investments No 900 (Pty) Ltd.
- Zenprop entered into a purchase agreement with Business Venture Investments and appointed Urban Dynamics in December 2006 to continue with establishing a mixed use township consisting of Commercial, Offices, Retail and Residential on the site.
- Business Venture Investments No 900 (Pty) Ltd gave Power of Attorney to the various consultants to continue professional work in December 2006.
- During April 2007 the mine authorities starting moving their employees out of the houses on the site and started demolishing the building on the site as part of the process to obtain a mine clearance certificate.
- An environmental authorisation application was lodged by SEF on 14 May 2007.
- An application for township establishment was submitted by Urban Dynamics on 17 July 2007.
- On 27 August 2007 a Public Participation Meeting was held with the community of Plantation as part of the Environmental Authorisation (Scoping). At this meeting the issue of the Sir Herbert Baker homes and their heritage value was raised. SEF undertook to invite the South African Heritage Resources Agency (SAHRA) for a site visit.
- In March 2008 Mr. Willie Vos (Business Venture Investments No 900 (Pty) Ltd) took over the township from Zenprop after they decided not to continue and the purchase agreement was cancelled.
- On 2 June 2009 another Public Participation meeting was arranged by SEF as part of the EIA process. The issue of the Heritage Value of the now demolished structures were again raised.

- On 15 June 2009, SEF forwarded the draft EIA Report to SAHRA who in turn asked for more information. The additional information was forwarded in July 2009.
- Subsequently SAHRA requested a Phase 2 Heritage Impact Assessment in a letter dated 15 September 2009.

3. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT

3.1 Study Area

3.1.1 General description

The study area is located north-west of the Boksburg CBD and is located 1.5 km from the Boksburg Civic Centre. It is located in the triangle formed by Rondebult Road on the western boundary and the Plantation suburb to the south-east.

The study area comprises reasonably flat grassy areas as well as sections containing dense vegetation and trees. A small stream or canal flows across the study area from west to east and its route is characterised by woody vegetation such as eucalyptus trees. The section of the study area to the south of the stream/canal is largely disturbed in that it is where all of the old married quarters from within the study area were located. These buildings have since been destroyed and only the mounds of rubble remain.

North of the stream was where the extension to the old Cason slimes dam was constructed. The slimes dam was rehabilitated and removed at an unknown time.

3.1.2 Extent of the study area

The study area is 33.53 hectares in extent.

3.2 Proposed Development

The proposed development would consist of the following:

- One large commercial development comprising 138 300m² of GLA.
- Two high density residential developments yielding a total of 47 and 75 sectionalised residential units respectively.
- 123 single residential stands each measuring approximately 240m² in extent.
- One large Public Open Space component of 2.98 ha in extent containing a Blue gum tree plantation and accommodating a storm water drain.
- One erf zoned special for conservation purposes.

Plate 1 General view of the study area to the north of the stream or canal. This is the general area where the slimes dam used to be located.

Plate 2 View along the gravel road which run parallel with (and north of) the stream/canal. The mine dump in the background is located some distance east and outside of the present study area.

Plate 3 The stream or canal running through the study area.

Plate 4 This row of blue gum trees is located south of the stream/canal.

Plate 5 As indicated in the text the study area south of the stream/canal is characterised by the remains of demolished buildings.

Plate 6 Another example of the mounds of building rubble from demolished buildings found within the study area to the south of the stream/canal

4. SCOPE OF WORK

The scope of this Phase 2 Heritage impact Assessment is defined by the letter written by Ms. Tebogo Molokomme of the SAHRA Gauteng Office on 15 September 2009 (refer Annexure D).

In the letter a Phase 2 Heritage Impact Assessment is requested and the contents of such an impact assessment indicated to include (but not limited to) the following:

- Clearly identify and map all the heritage resources (e.g. where these demolished structures were and what they looked like)
- Provide the historical background and exact ages of these demolished structures
- Provide mitigation measures and recommendations (e.g. how these demolished structures can best be memorialised).
- Follow the public participation process
- Provide aerial photograph of the site

With the exception of the second last point dealing with a public participation process, all of the items from this list are thoroughly addressed in this report. A public participation process was undertaken by SEF between 2007 and 2009 and two public participation meetings were held.

5. METHODOLOGY

5.1 Desktop Study

The desktop study's aim is to compile as much available information as possible on the heritage resources of the area with specific emphasis on the married quarters which used to be located there.

The following institutions were accessed during this study:

- National Archives, Pretoria
- Museum Africa, Johannesburg
- Archives of the ERPM Survey & Engineering Department, Boksburg
- Boksburg Municipal Library, Boksburg

5.2 Field Visit

The field visit was undertaken on Thursday, 28 January 2010. It consisted of a walkthrough of sections of the study area. Emphasis was placed on the demolished married quarters within the study area as well as the remaining married quarters on the opposite side of Rondebult Road.

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 A1100IS digital camera.

6.ASSUMPTIONS AND CONSTRAINTS

The following assumptions and contraints in terms of the present study can be identified:

- For the aims of the present study it was assumed that a Phase 1 Heritage Impact Assessment had already been undertaken. It was furthermore assumed that the entire study area would have been covered during the fieldwork of the Phase 1 Heritage Impact Assessment. As a result the intention of the field visit during the present study was never aimed at locating previously unknown archaeoloigcal and/or historical sites. The present study was focussed on the demolished married quarters from within the study area.
- Although SAHRA mentions a Public Participation Process in its letter of 15 September 2009, it was indicated by the client that such a process had already been undertaken and that there was no further need for such a process.

7. HISTORIC OVERVIEW OF THE EAST RAND PROPRIETARY MINES (ERPM)

7.1 The Period before the South African War

In September 1886 a young man by the name of Pieter J.J.D. Killian started prospecting for gold on the farms Leeuwpoort and Vogelfontein. Within a few weeks he discovered gold-bearing reefs. At roughly the same time one of the Struben brothers also located gold on the neighbouring farm Driefontein.

The discovery of gold led to the proclamation of Leeuwpoort and Vogelfontein on 21 March 1887 as public diggings. At the same time the Mining Commissioner of the Witwatersrand wrote to the State Secretary of the *Zuid-Afrikaansche Republiek,* Dr. W.E. Bok, and recommended that the newly proclaimed public diggings be managed as a separate entity. In July 1887 the new village was named Boksburg in honour of Dr. W.E. Bok and during August 1887 the first stands were sold on the farm Vogelfontein.

Although mining activities started during the late 1880s, these operations were faced with a number of serious obstacles, including the crudeness of the extraction process, a lack of confidence in the deeper level mines by the shareholders of the respective mining companies as well as a severe shortage in fuel. When coal was discovered on the eastern end of present-day Boksburg by J.L. Gauf in December 1887, at least the latter of these problems was solved and mining operations intensified (Boksburg Town Council, n.d.).

The year 1889 proved very significant in the history of the area in that a number of gold mining companies were established along the main reef to the north of the study area. These included the *Blue Sky Gold Mining Company Limited*, the *Cinderella Gold Mining Company Limited*, the *Agnes Munro Gold Mining Company Limited*, the *Comet Main Reef Gold Mining Company Limited*, the *St. Angelo Gold Mining Company Limited* and the *Driefontein Gold Mining Company Limited* (Letcher, 1936).

The relevant section of an 1891 map which shows the various mining properties on the Witwatersrand at the time can be seen in Figure 1 below. While no mines are shown for the study area itself, the three closest ones to the present area were Cinderella, Agnes Munro and Comet. These three mining companies will be discussed more detail below:

- The *Cinderella Gold Mining Company Limited* was registered in 1889. The directors of the company were James Hay, K.H. Hathorn, E.P. Solomon, S.W. Jameson and S.B. Height. During the early 1890s the company held 42 claims on the farms Driefontein and Vogelfontein in an area between the Blue Sky and the Agnes

Munro mines. At the time the company had five shafts (ranging in depth from 30 feet to 120 feet). The company only had three buildings during the early 1890s namely a manager's house, workmen's quarters and a compound for black employees (Goldmann, 1892) (Fraser & Jeeves, 1977).

- The *Agnes Munro Gold Mining Company Limited* which was established in 1889. At the time it had 19 claims in the Boksburg area (Fraser & Jeeves, 1977).
- The *Comet Main Reef Gold Mining Company Limited* was established during September 1889. At formation the directors of the company were James Hay, H.A. Rogers, Abe Bailey, Alex Iles and W.P. Taylor. During the early 1890s the mining company held 43 claims on the farm Driefontein directly adjoining the *Agnes Munro Gold Mining Company*. In 1892 all work on the mine had been stopped and at the time there were three winzes of 93 feet average depth and a main shaft of 112 feet vertical depth. The only buildings associated with the mine in 1892 were a manager's house and staff quarters comprising a single building of stone with a corrugated iron roof (Goldmann, 1892).

Figure 1 This map was published in C.S. Goldmann's *South African Mines* (1892) and dates to August 1891. The star indicates the approximate position of the study area.

The proliferation of gold mines in the vicinity of Boksburg during the late 1880s meant that it came as no surprise when on 1 November 1890 the Boksburg Goldfields were proclaimed as a separate administrative unit with Montagu White as the first Mining Commissioner. Although White only stayed on in this post for two years, he is known as the person responsible for creation of the Boksburg Lake. White also planted some 40 000 trees in a higher lying area north-west of the lake. This area became known as Vogelfontein Plantation and is located directly south of the study area. In 1892 White took up another post and was replaced by B.J. Kleynhans (Boksburg Town Council, n.d.).

During the early 1890s many of the mining companies were experiencing financial problems. In 1892 Sir George Farrar and his associate Carl Hannau bought large quantities of shares in various gold mining companies of the area, including Blue Sky, Cinderella, Agnes Munro, Comet, St. Angelo and Driefontein. In September 1892 their shares were ceded to the H.F. Syndicate. In May 1893 these were all taken over by the newly established East Rand Proprietary Mines (ERPM) (Letcher, 1936).

This reorganisation and amalgamation of mining companies during the late 1880s and early 1890s must be seen against the difficulties experienced by gold mining companies at the time. During the early years of gold mining on the Witwatersrand the method of obtaining gold ore consisted of surface or shallow mining of the reef outcrops which contained gold. As these outcrops were weathered by natural processes it was reasonably easy and inexpensive to mine and treat the ore to obtain gold. Before long most of the mine shafts and workings had reached a depth of 30 meters. At levels deeper than that it was found that the gold ore was locked in sulphur-containing pyrites. With the chemical processes and techniques available at the time (such as the use of mercury to extract the gold from the ore in a process known as amalgamation) it was found that only 50% of the gold could now be recovered. Coupled with the increasing expenses associated with excavating and equipping deeper shafts, this reduced level of production meant that many of the smaller gold mining companies were unable to carry on and were taken over by bigger, better funded companies. Although a solution to the problem of extracting gold from ore obtained at deeper levels arrived on the Witwatersrand in 1889 or 1890 in the form of the so-called MacArthur-Forrest process (invented by J.S. MacArthur and the brothers R.W. Forrest and W. Forrest of Glasgow), it proved in many cases too late. Their process entailed crushing the gold bearing ore and dissolving the gold particles in a weak cyanide solution. Once the gold is dissolved, the remaining rock could be filtered out leaving the gold-bearing solution. Adding zinc dust to the solution caused another chemical reaction whereby the gold was precipitated in the form of small specks which were removed from the solution and refined (Brodie, 2008).

Figure 2 Undated photograph of early mining activities at *Driefontein Consolidated Mines Limited* (Museum Africa, Photographs, PH2007-33259). During the early years all gold mining activities were undertaken on the surface.

Figure 3 Machine stoping at the Comet Mine. This photograph probably dates from the mid 1890s when deep level mining became viable (Museum Africa, Photographs, PH2006-9284).

East Rand Proprietary Mines Limited (ERPM) was formed on 8 May 1893 with George Farrar as chairman and C.S. Goldmann, Lionel Phillips, J.C.A. Henderson and S.W. Jameson as directors. At the time of establishment the company had capital of £650,000 of which £420,000 went to the H.F. Syndicate, £150,000 was set aside as working capital and £80,000 kept as reserve.

In the period 1894 to 1895 the three gold mining companies in which ERPM were most interested in were Comet, St. Angelo and Driefontein. These three mining companies were reconstructed by ERPM by way of the provision of working capital and the selling of much needed land. The aim was to extend the life of all three mines by 40 years (Goldmann, 1895/6). For example, in February 1895 the Comet Mine was reconstructed as the *New Comet Gold Mining Company Limited* with George Farrar, Georges Rouliot, J.C.A. Henderson, C.S. Goldmann, James Hay and Abe Bailey as directors. *Driefontein Consolidated Mines Limited* was registered during May 1895 while the *Angelo Gold Mining Company Limited* was established in the same year.

By 1895 ERPM held 89 252 out of a total of 120 000 shares in the *Driefontein Gold Mining Company Limited*, 109 090 out of a total of 150 000 shares in *Angelo Mines Limited*, 100 000 shares in the *Driefontein Consolidated Mines* and 64 364 out of a total of 75 000 shares in the *New Comet Gold Mining Company*, 62 494 out of a total of 93 000 shares in the Anges Munro Gold Mining Company Limited, 78 417 out of a total of 100 000 shares in the Cinderella and 109 155 shares our of a total of 150 000 shares in the New Blue Sky. Significant for the present study is that ERPM also acquired just over 410 shares "…*on Driefontein immediately south of Driefontein Consolidated, Angelo Mines and New Comet*…" (Goldmann, 1895/6:94).

It is therefore very evident that the East Rand Proprietary Mines held great sway in most of the gold mines around Boksburg during the mid 1890s. As can be seen from the map dated to 1895/6 under Figure 1 below, the study area at the time formed part of the land belonging to the East Rand Proprietary Mines (ERPM).

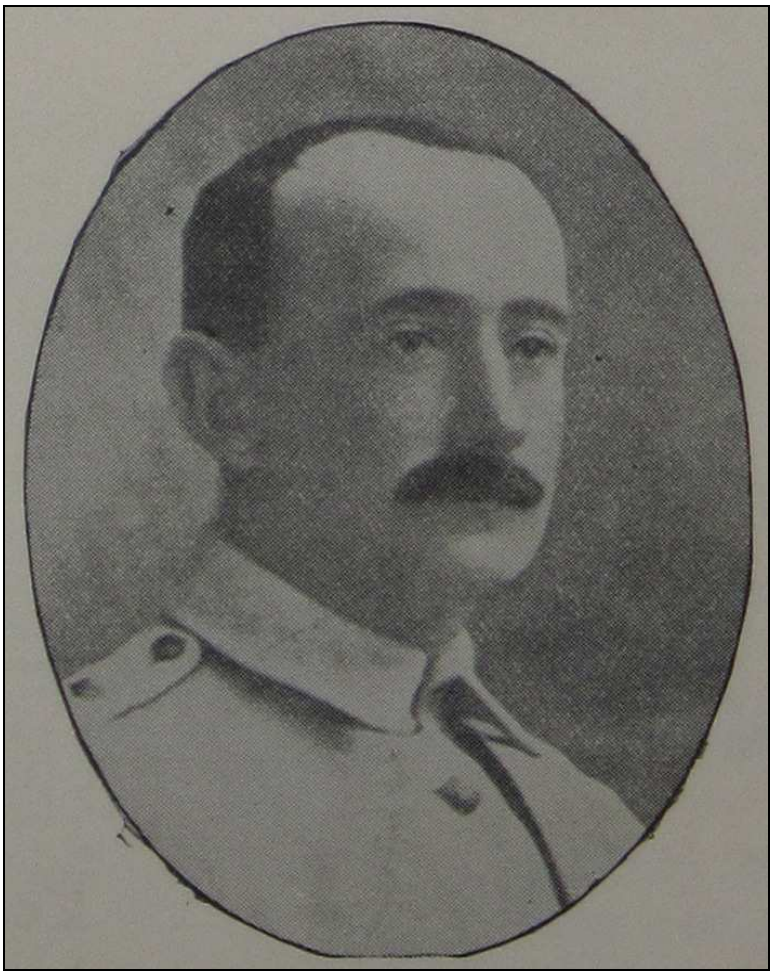

Figure 4 Sir George Herbert Farrar (1859 – 1915)

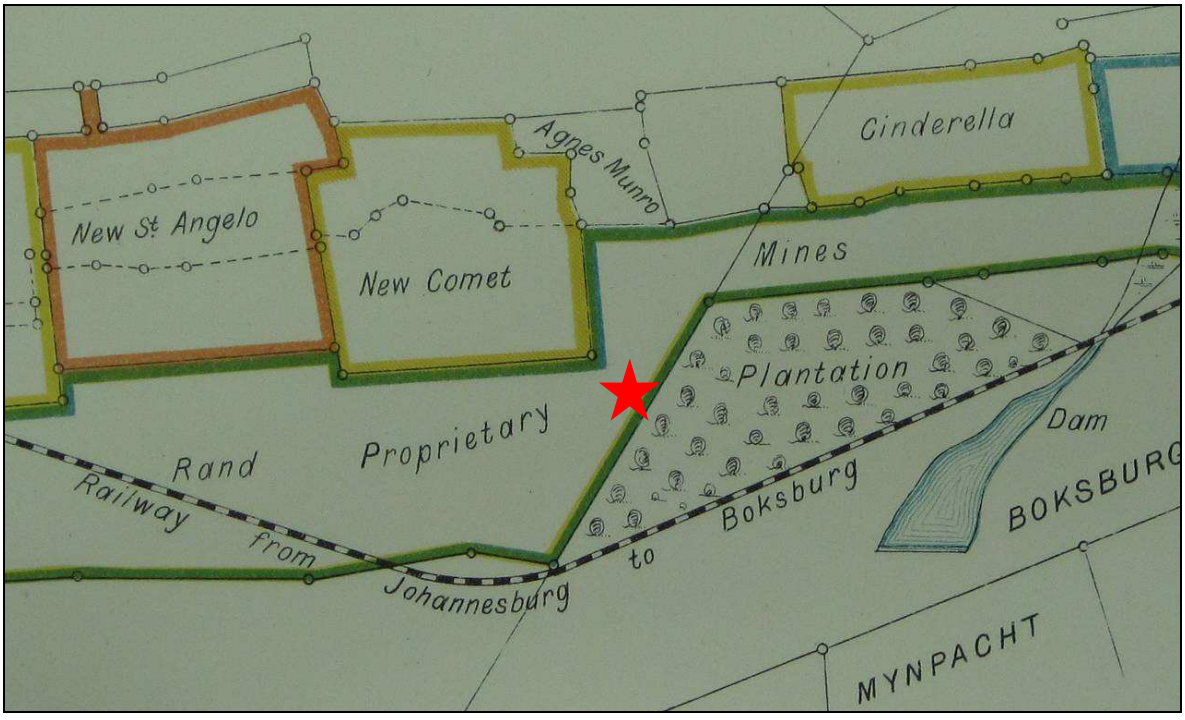

Figure 5 This map was published in C.S. Goldmann's *South African Mines* (1895/6). The star indicates the approximate position of the study area.

7.2 The Period between the South African War and the EMPR Amalgamation

Although some growth was experienced, the period following the mid-1890s saw a number of obstacles faced by the gold mines across the Witwatersrand gold fields. These included the South African War (1899 – 1902), the shortage of labour experienced during the mid 1900s, the miner's strikes of 1907 and 1913, the First World War between 1914 and 1918, the Rand Revolt of 1922 and the Great Depression starting in 1929.

7.2.1 The South African War (1899-1902)

When the South African War erupted on 11 October 1899 a massive exodus of British subjects from the Witwatersrand had already started. The exodus also included large numbers of black employees of the mines who returned back to their homes. Even though the mine owners tried to keep their qualified employees at the mines by offering them attractive bonuses and salary increases, this had little effect on stemming the flood. Before long all the gold mines across the Witwatersrand were forced to close down.

The government of the *Zuid-Afrikaancshe Republiek* stepped in and appointed a State Board to run the industry. Its members included B.J. Kleynhans (who used to be the Boksburg Mining Commissioner), J.H. Munnik (the Acting State Mining Engineer), E. Boucher (of the Chamber of Mines) as well as W.D. Gordon (the American Consol). By November 1899 the State Board managed to get nine of the richest gold mines in the vicinity of Johannesburg operational again. In the wake of the commandeering of the *Zuid-Afrikaansche Republiek Politie* (the Transvaal Police) being commandeered to the front, the government created a Mines Police Force to protect the gold mines.

As the tide of war started to turn against the Boers, State Secretary Reitz indicated to the world that the government's intention was for the gold mines to be destroyed rather than allowing them to fall into British hands. This caused a great furore in international stock exchanges and the story was carried by newspapers the world over. During March 1900 the commander of the Mines Police Force Commandant L.E. van Diggelen learnt of plans to blow up the mines. General Louis Botha, the commander of the forces of the Z.A.R. intervened and instructed the Commandant of Johannesburg D.E. Schutte that he would be held personally responsible for the safety of the mines. When Lord Roberts occupied Johannesburg it was found that no damage had been done to the mines.

Although it was believed that the occupation of Johannesburg and Pretoria (which took place on 31 May 1900 and 5 June 1900 respectively) would result in the immediate surrender of the Boer forces, the Boer leadership rather decided on a mobile strategy of

warfare which became known as the guerrilla war. During this period the New Kleinfontein gold mine to the north-east of the study area was attacked by the Boer commando under General Piet Viljoen. The manager of the mine, E.J. Way, was taken prisoner but released the same day. Another attack took place at the Modderfontein Mine. These attacks led to the establishment of a 1,500 strong Rand Rifles Mine Division whose members comprised former mine employees who were waiting to return to the Witwatersrand. The force repulsed a number of minor attacks and in November 1901 the mines were declared safe from attack and the Rand Rifles Mines Division disbanded

On 4 May 1901 the Meyer and Charlton became the first gold mine to start working again. Within a short period of time another seven mines were operational and by the end of 1901 this figure had increased to 15. In January 1902 Lord Kitchener authorized the mining houses to accelerate the restarting of the mines. However, largely due to the lack of white and black labour at the end of hostilities, it would take another three years before the production of the mines returned to its pre-war figures (Lang, 1986).

7.2.2 The Chinese

Before the outbreak of hostilities in 1899 the Witwatersrand gold mines employed in the region of 90 000 black mineworkers. During the war most of these mineworkers returned home. When peace was declared in 1902 it soon became apparent that the numbers of black workers returning to the mines were not anywhere close to the pre-war figures. It was estimated that during July 1903 only about 55 000 black mineworkers had returned to the mines after the cessation of hostilities. When the Chamber of Mines' decision to increase the wages of black workers to higher than the pre-war levels had no significant result, possible solutions to the problem were considered and debated. One suggestion that was raised was the temporary immigration of Chinese mineworkers. The Chamber was strongly divided on this issue and the debate spread into the public arena as well. While the president of the Chamber of Mines' shortly after the South African War, Sir Percy Fitzpatrick was strongly opposed to the use of Chinese workers, his successor Sir George Farrar was in favour of it. On 2 December 1903 the Chamber of Mines declared its support for the importation of Chinese mineworkers and at a meeting on 28 December 1903 a motion tabled by Farrar in support of the use of Chinese mineworkers was accepted by 24 votes to four.

Negotiations with the Chinese government proved successful and on 25 May 1904 the first group of 1 055 Chinese mineworkers set sail from Hong Kong aboard the S.S. Tweeddale arriving in Durban on 18 June 1904. After staying in Durban for a while, they

entrained for the Rand where they had been engaged by the New Comet Mine. On 22 June 1904 these workers arrived at the closest railway station to the mine where they were met by Lady Farrar and Harold Strange. As a result the New Comet Mine was the first to start crushing again (Lang, 1986). By the end of 1904 as many as 21 000 Chinese workers were already employed on the gold mines of the Witwatersrand, a figure which increased to 47 000 the following year (Von Ketelhodt, 2007).

Figure 6 Photograph taken on 22 June 1904 which shows the arrival of the first Chinese mineworkers at the New Comet Mine. This was the first arrival of Chinese mineworkers at a gold mine anywhere on the Witwatersrand. These workers detrained at East Rand Station which still exists today and is less than 500m southwest of the study area (Lang, 1986).

When Louis Botha's *Het Volk Party* came to power in 1907, steps were implemented to repatriate the Chinese labourers back home. The last of the Chinese mineworkers had left South Africa during March 1910 (Chilvers, 1932).

7.2.3 The amalgamation of EMPR

In the years following on the South African War, many of the gold mines along the Rand started experienced lower gold yields and dropping profit ratios. Some of the mine owners came to the conclusion that one solution was to expand mining operations and amalgamate smaller adjacent gold mines into larger gold mining companies. In the words

of mining magnate Lionell Phillips (Jeeves, 1985:60) "i(*I)ncreased scale of working, wherever practicable, must be our motto*." The argument for amalgamation is described by Eric Rosenthal (1970:344) as follows: "*s(S)ince the newer and deeper deposits, though astonishingly uniform in texture, could be economically exploited only if treated as increasingly larger units, older companies joined forces.*" The advantages of such amalgamations included a higher output with resulting lower unit costs, better use of capital in shaft-sinking and development and better planning (Fraser & Jeeves, 1977).

In the latter part of the decade at least two amalgamations took place. The first of these amalgamations was implemented by Werner, Beit/Eckstein on the central Witwatersrand south of Johannesburg and led to the establishment of Crown Mines. In 1909 the Anglo-French Group under chairmanship of George Farrar undertook the second amalgamation with the reconstruction of the East Rand Proprietary Mines. The amalgamation entailed the absorption of several smaller gold mining companies including *Driefontein Consolidated Mines Limited*, *Angelo Gold Mines Limited*, *New Comet Gold Mining Company Limited*, *Cason Gold Mines Limited*, *New Blue Sky Gold Mining Company Limited*, *Hercules Company Limited*, *Angelo Deep Gold Mines Limited* and the *H.F. Company Limited*. At the end of the reconstruction process ERPM held some 4000 mining claims, several water rights and a few mining stands. The East Rand Proprietary Mines was now one of the largest gold mines in the world.

Figure 7 One symbol for the amalgamation of ERPM was the construction of the company's new headquarters building during the first decade of the 20th century (Museum Africa, images Collection, MA2006-2211).

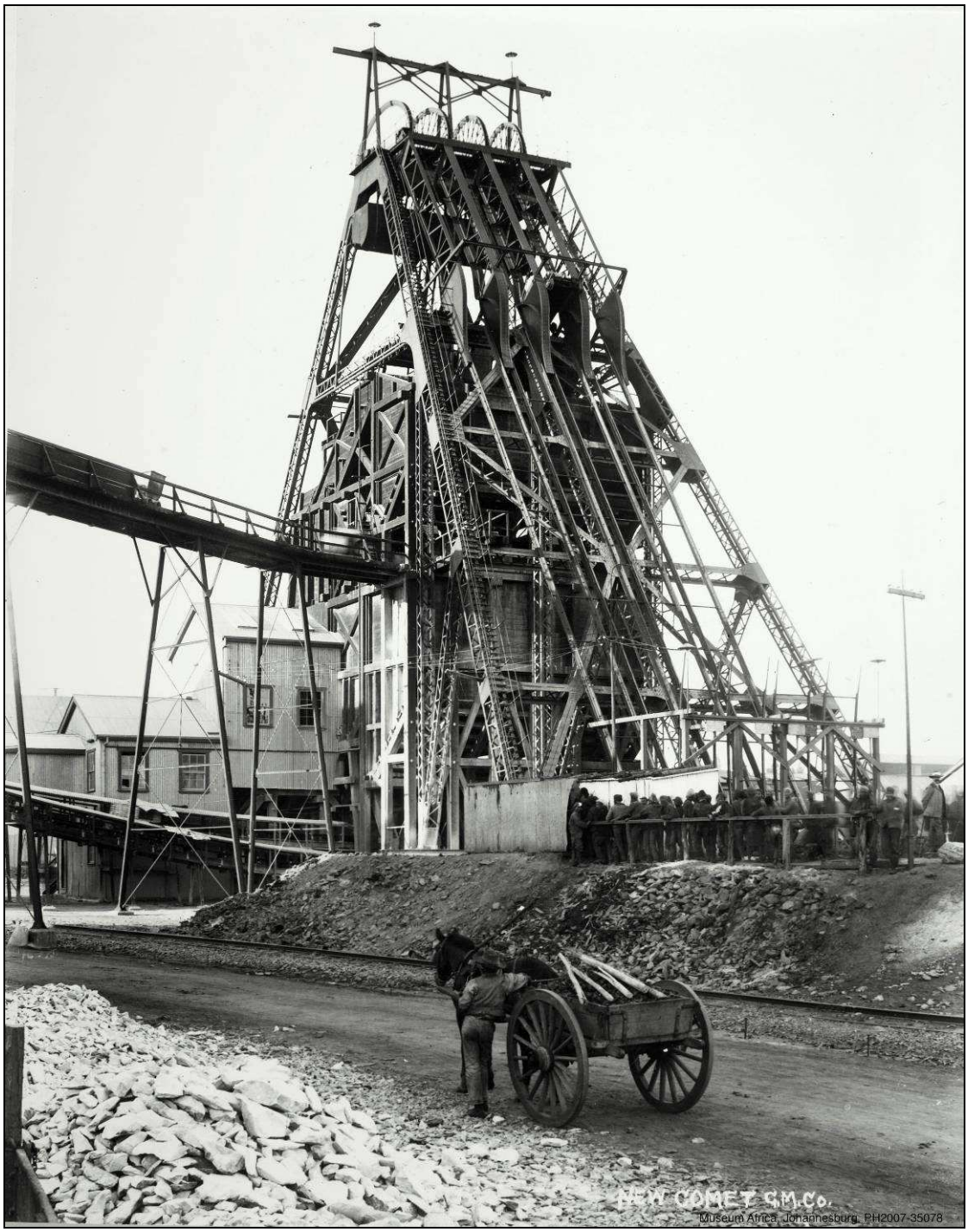

Figure 8 General view of the New Comet Mine. Although undated, this photograph appears to have been taken at roughly the same time as the amalgamation of the East Rand Proprietary Mines whereby a number of adjacent mines (including New Comet) were absorbed (Museum Africa, Photographs, PH2007-35078).

Figure 9 General view of the Cason Gold Mine. The photograph was taken in c. 1906 and is roughly contemporary with the amalgamation of the Cason Mine into the East Rand Proprietary Mines (A Souvenir of the Transvaal, n.d.).

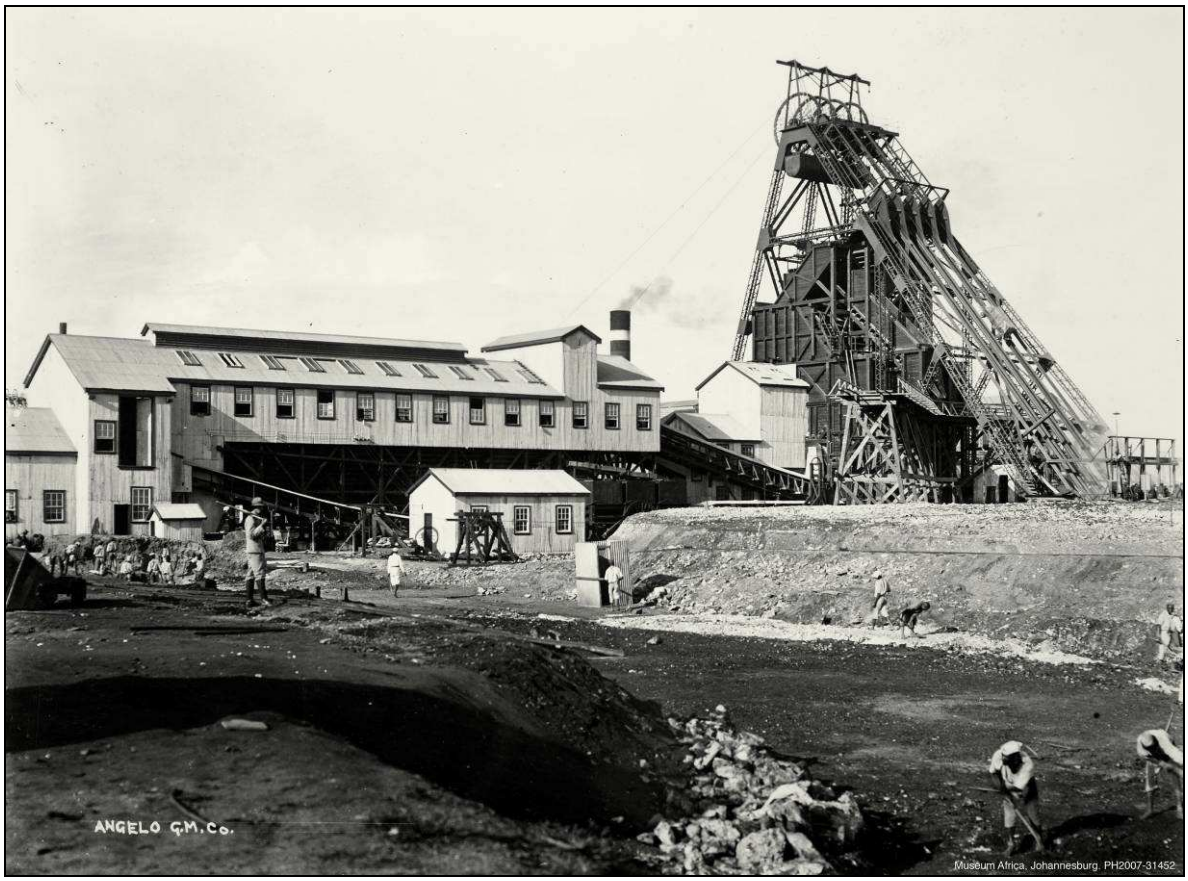

Figure 10 General view of the Angelo Gold Mine. The photograph is also roughly contemporary with the amalgamation of the East Rand Proprietary Mines (Museum Africa, Photographs, PH2007-31452).

7.3 The Period between the EMPR Amalgamation and the Acquisition of the Cinderella Gold Mining Company in 1926

The first six years during and after amalgamation (1908 to 1914) saw the East Rand Proprietary Mines doing well. During this time dividends ranging from 17.5% to 40% per annum were declared.

However, the First World War, which broke out in 1914, started having a negative impact on the gold mines of South Africa. Apart from the rising costs of mine production coupled with the release of many trained European staff members to join the armed forces, one factor which had a profound negative impact on the financial position of the gold mines especially during the last couple of years of the war was the agreement which they had signed with the Bank of England in 1914. According to this agreement all gold produced in South Africa during the war was to be sold to the bank at a fixed price of £3 17s 9d. Although the agreement initially looked very attractive, as the war wearied on the rising costs of mining made the fixed price increasingly unprofitable.

In terms of the East Rand Proprietary Mines, the impact of the First World War and the agreement with the Bank of England can clearly be seen. In 1915 the dividend declared was only 11.25% while the position worsened in 1916 when a dividend of only 2.5% was declared. For the remaining years of the war (1917 and 1918) no dividends were declared. In July 1919 the agreement with the Bank of England ended which allowed gold mines to sell their gold on the open market again. The price of gold sold in London rose to £4 19 an ounce in September 1919 and continued to rise so that in February 1920 it stood at £6 2 per ounce. Without this rise in the gold price ERPM would have shown a working loss for the previous financial year, though no dividends were again declared for 1919 (Cartwright, 1968).

What is significant about this time as well is that ERPM came under the control of Central Mining and Investment Corporation (which was a major shareholder in ERPM) in 1915. This came about when it was discovered that the monthly returns of gold production figures were falsified. Farrar, as chairman of ERPM, was blamed by Lionel Phillips of Central Mining for this. Phillips took the lead in a subsequent corporate coup, the end result of which was while Farrar remained nominally in charge, the administration of the mine was taken over by Central Mining's own people (Lang, 1986). Later Rand Mines acquired East Rand Proprietary Mines.

At this time ERPM was experiencing serious problems with the groundwater in its mine shafts. It cost the mine roughly £90 000 a year just to keep the pumps going. While attempts were made to sign an agreement with the government to assist in subsidizing the costs associated with the pumping operation, these failed. Although the closing of the mining operation was seriously considered during this time, the dependency of Boksburg and to a lesser extent Germiston on the continued running of ERPM led to Rand Mines (the company owning ERPM at the time) deciding to keep the mines going in the hope that more payable ore reserves would be located (Cartwright, 1968).

The financial problems continued through the next number of years, with no dividends declared for 1920, 1921, 1922 and 1923. In 1924 only a small dividend of 3.75% was declared.

In 1926 ERPM acquired the Cinderella Gold Mining Company (Cartwright, 1968). In the preceding years it has found it increasingly difficult to obtain payable ore and with the acquisition of the Cinderella Gold Mine a considerable body of payable ore became available.

7.4 The Period between 1926 and 1965

On 28 December 1932 South Africa abandoned the gold standard (www.sahistory.org.za). This resulted in the price of gold shooting up by an incredible 66% to £7.10 per ounce (www.pamodzigold.co.za). A boom in gold mining shares was the result, with everyone buying shares in South Africa's gold mines.

Cartwright (1968) compares the impact of the abandonment of the gold standard on gold mines such as ERPM with the biblical miracles in which a patient close to death suddenly stands up from bed and walks.

The high price paid for gold meant that vast areas which had low grade ore and had been deemed valueless could now be mined at a profit (Cartwright, 1968).

In 1934 ERPM showed a working profit of £1,033,033. The devaluation of the sterling in 1949 raised ERPM's working profit to £1,956,764 and in 1950 to £2,502,816.

As mining activities at ERPM went deeper and deeper, the values improved. A promising area lay to the south-east of the Hercules shaft. The mining here entailed many risks as its workings would have to go deeper than the 8,500 to 9,000 feet originally envisaged

with the mine layout. In November 1955 the deepest workings in the mine reached a depth of 10,000 feet and in May 1958 a winze reached a depth of 11,000 feet. This meant that East Rand Proprietary Mines became the deepest mine in the world (Cartwright, 1968), a record it held until 2008.

In 1965 ERPM made a working profit of £1,250,000 (Cartwright, 1968).

7.5 The Recent History of East Rand Proprietary Mines

In the early 1980s ERPM opened a new shaft which extended the working life of the mine considerably (James, 1992).

In 1989 a consortium of banks provided ERPM with a loan of R220 million which was guaranteed by government. In the subsequent four years the loan amount had grown to R309 million. Although an amount of R150 million was recovered through a rights issue, the loan amount rose to R252 million in 1996. At the time the consortium of banks called in the loan and government, as guarantor, had to repay the full amount. In return it received 18% of the company's shareholding, namely 28 million shares.

During 1997 East Rand Proprietary Mines was on the brink of liquidation. A new board of directors was appointed and they managed to keep the mine afloat until the fall in the gold price of June 1999. On 21 June 1999 the management of East Rand Proprietary Mines informed the Gold Crisis Committee of the mine's possible closure. On 6 July 1999 the High Court placed the mining company in provisional liquidation.

East Rand Proprietary Mines was acquired by Enderbrooke Investments (a company established by Khumo Bathong Holdings) and Daun et Cie on 21 January 2000 (www.search.gov.za). During October 2002 it was purchased by Crown Gold Recoveries. Subsequently, East Rand Proprietary Mines was acquired by DRDGold Limited (www.mineweb.com).

Underground mining at ERPM stopped in October 2008 when pumping operations were halted due to safety reasons (www.drd.co.za).

8. HISTORIC OVERVIEW OF THE MARRIED QUARTERS WITHIN THE STUDY AREA

Two clusters of married quarters were located within the study area. The first, which was also the oldest, comprised what used to be the easternmost end of a rectangular arrangement of 12 buildings. Five of these original 12 buildings were at one time located within the study area. The second cluster of married quarters comprises four double storied terrace houses that were located along the southern boundary of the study area.

8.1 The Period before the South African War

During the period before the South African War (1899 – 1902) the white mine workers employed on the Witwatersrand gold mines were for the most part single men who stayed in various boarding houses. The situation was described by James Ramsay Macdonald in October 1902 as follows:

"*…his (a workman's) home is only a bedroom, which he generally shares with a fellow workman…family life…may be said hardly to exist amongst great sections of the population. Men rent beds, not houses, in the Golden City*" (Van Onselen, 2001:31).

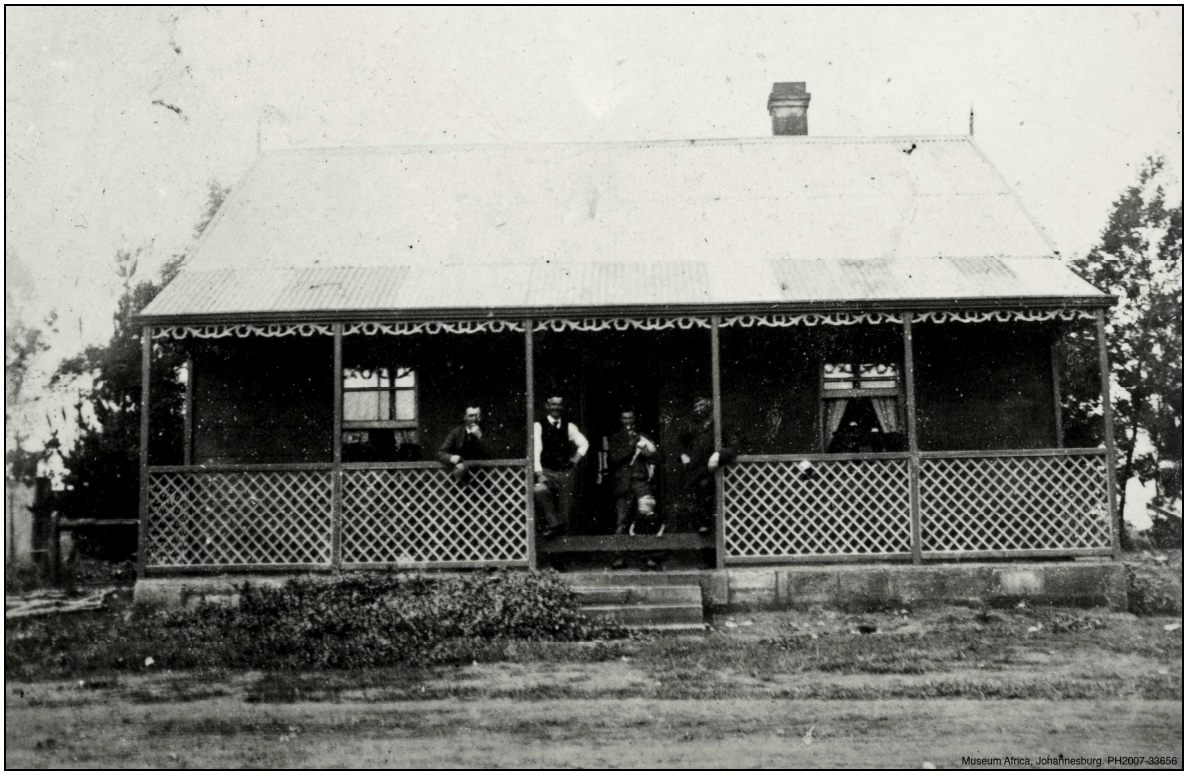

Figure 11 Example of all-male accommodation for miners during the late 1800s. This building was a boarding house associated with an unknown mine and was owned by a Mrs. Blisk (Museum Africa, Images Collection, PH2007-33656).

Against this backdrop it becomes evident that the married quarters which were located within the study area would more than likely not have been constructed at a time when the emphasis was placed on boarding houses and worker accommodation catering for single mineworkers rather than accommodation designed and built to house families.

The lack of married quarters on the mining properties of the mid-1890s is clearly shown when one studies the layout plans of mining properties depicted in C.S. Goldmann's *South African Mines*. Typically, these early mine buildings comprised a manager's house (usually of wood and iron or brick with corrugated iron roof), workmen's quarters (often a stone building with corrugated iron roof) and on some mines a compound to house black employees. Other more mining related buildings included stores and engine rooms. As an example the layout plan of the closest mining property to the study area at the time, the *New Comet Gold Mining Company Limited*, is depicted in Figure 12 below. Here the accommodation comprises a manager's house and worker housing which would have been single quarters.

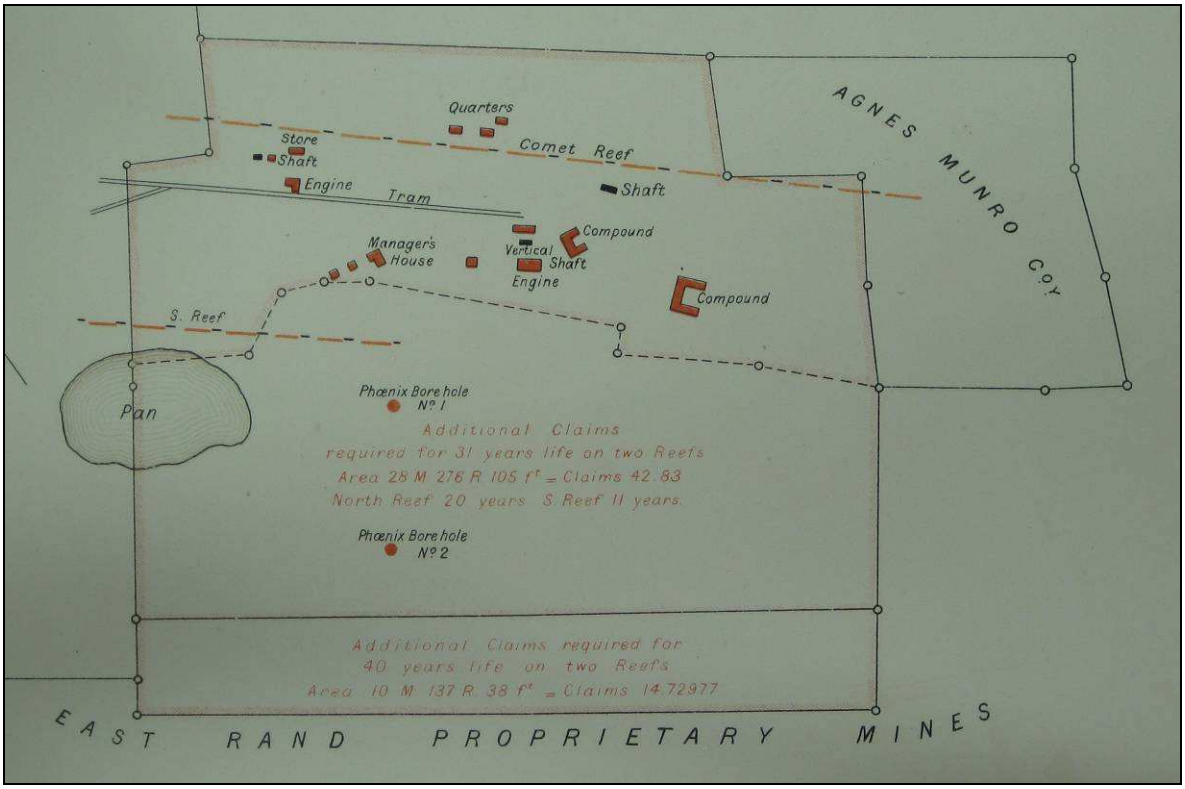

Figure 12 This plan of the property of the *New Comet Gold Mining Company Limited* was published in C.S. Goldmann's *South African Mines* (1895/6). It shows the typical buildings associated with a gold mining company at the time. The study area is located outside and to the south-east of where this mine used to be located.

It therefore appears that no married quarters existed within the study area before the South African War. The question can also be asked whether any buildings other than married quarters existed within the study area and direct surroundings during these early years. When one looks at the enlarged section from the Major Jackson Series Map that was compiled during July 1902 and revised during April 1903, no buildings are depicted within the study area or its direct vicinity. The only buildings depicted in the general vicinity are located further to the north along what appears to be the Main Reef as well as to the north-east where the Cason Gold Mine was located.

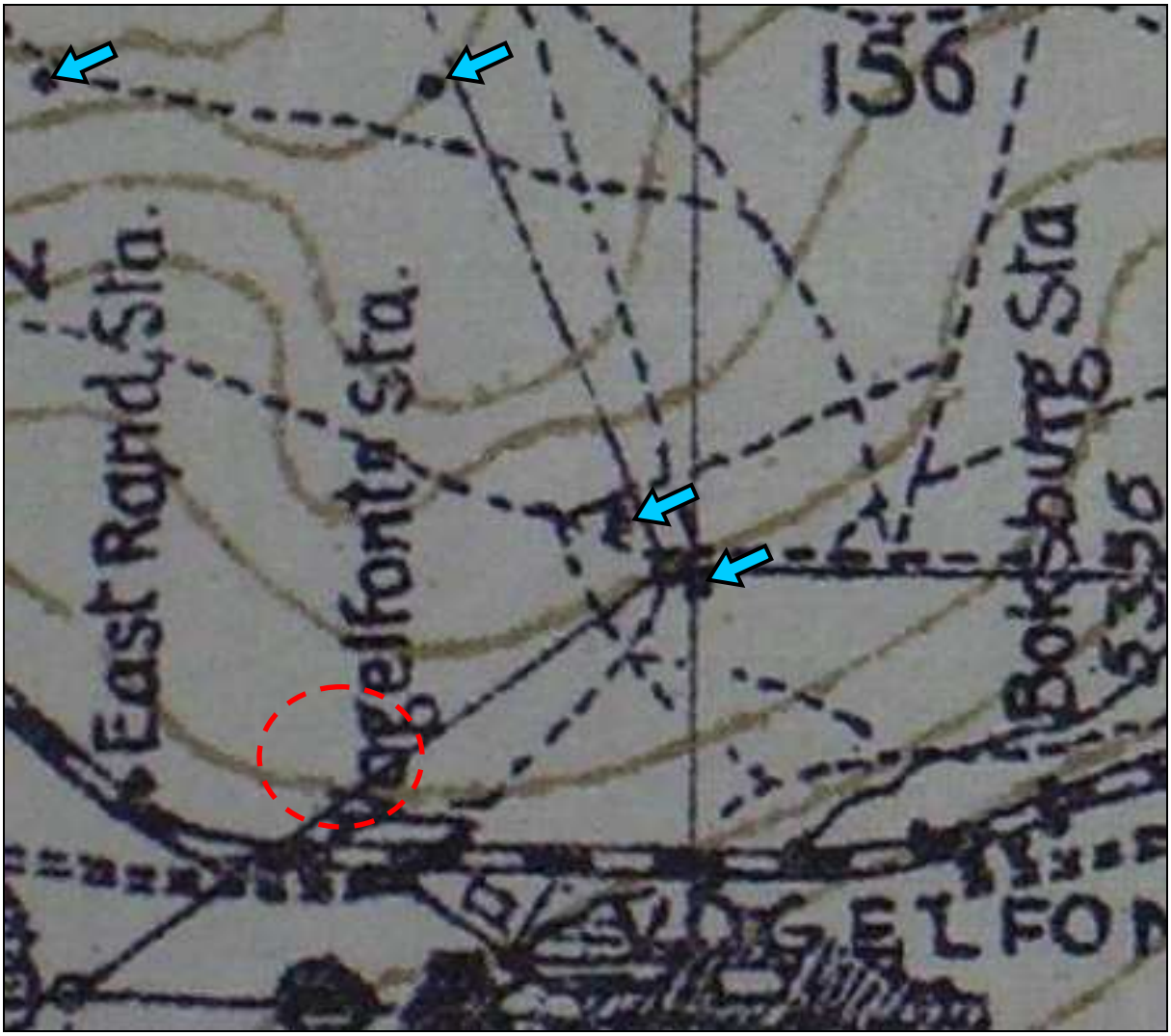

Figure 13 Enlarged section of the Heidelberg sheet of the map series compiled by Major H.M. Jackson during the South African War. The sheet was originally produced during July 1902 and revised during April 1903 (National Archives, Maps, 2/179). The approximate position of the study area is marked with a red circle, while four of the closest buildings to the study area are marked with blue arrows.

Although the indication therefore is that no buildings existed within or in close vicinity to the study area during the period before the South African War, an article was found in *The Reef* of 1934 which deals with an old stone building dating from before 1893 and which was located in an area referred to as 'Comet Plantation" at the *East Rand Proprietary Mines*. Whether this 'Comet Plantation' fell within the general vicinity of the study area on the farm Driefontein, or whether it is where the Vogelfontein Plantation to the south of the study area was located, is not clear at this time. It is also not clear whether it refers to the area along the Main Reef further to the north where the Comet Mine's operations were. The article indicates that with the exception of mine offices this building was the only one from the mining property during the early 1890s and was used as a mess-room and accommodation for single miners. Interestingly, it was frequented for breakfast and lunches by many famous mine owners of the Witwatersrand such as Sir George Farrar, Alfred Beit, S. Neumann and S. Brailsford (The Reef, 1934).

While the building appears to have been in existence at the time the article was published (1934), it is not known whether it still exists today.

Figure 14 Photograph of the old stone building dating from the early 1890s that was located in an area referred to as Comet Plantation. The building was used for accommodation and as a mess-room (Museum Africa, Images Collection, MA2006-30).

8.2 The Period between the end of the South African War (1902) and 1905

After the cessation of hostilities and the return of the white mineworkers back to their workplace, the demographics of the white population along the Witwatersrand reasserted itself into the pre-war situation characterised by far more men than women. During mid-1903 concerted efforts were made by amongst others the Transvaal Immigration Department and the South African Colonisation Society to attempt to increase the number of white females along the Witwatersrand (Van Onselen, 2001). The idea behind this was that the Transvaal colony required a stable population of white working class men and women who as individual families would be more inclined to settle permanently along the Witwatersrand as would have been the case with single men. This was in clear contrast to the pre-war situation where single men came to the Rand from overseas and only stayed for a short period of time before returning home. In the words of Sir George Farrar: "*He* (Farrar) *did not want them* (the white mineworkers) *to go to the Post Office every month and send their money over the water*…(the mine owners) *wanted them to bring their wives and children to the country, because…it would make them interested in the country, and make them stick to the country…*" (East Rand Express, 1910:27).

During the period 1896 to 1899 the cost of building white working class homes rose substantially due to the high cost of machine-made bricks and cement. The effects of this were especially felt in 1903 when it was realised that the Witwatersrand faced a substantial shortage in white working class houses. During that year members of the Johannesburg Housing Commission came to the conclusion that the best way of alleviating this shortage would be to look at private enterprise. Between 1903 and 1905 the *Johannesburg Brick and Potteries Company Limited* reduced the price of machine-made bricks by 50 per cent. Among other things, this reduction in building cost led to many of the large gold mining companies undertaking the building of married quarters on their respective mining properties. Between 1902 and 1905 the mining companies Rand Mines, Consolidated Gold Fields and East Rand Proprietary Mines spent approximately £400,000 on the construction of housing for married employees (Van Onselen, 2001).

In terms of ERPM specifically, this period saw £100, 780 spent on the erection of married quarters. At the time a single family cottage could be built for £400 while two semi-detached cottages could be built for £720 (Fraser & Jeeves, 1977). This means that between 140 (if using the figure of £720 for a two semi-detached cottages) and 252 (if using the figure of £400 for a cottage) units were constructed during this time. It also means that accommodation for some 250 to 300 individual families would have been created.

The need for these construction activities can be seen from the minutes of the eighth Annual General Meeting of the East Rand Proprietary Mines which took place on 31 March 1904. At the meeting the company's chairman Sir George Farrar indicated that the mine had 682 white employees. He added that many of these employees had their families living with them on the mine so that the total number of white men, women and children living at the mine stood at 1 072. He went further to indicate that this number was expected to increase to approximately 2 000 men, women and children in the subsequent eighteen months (East Rand Express, 1904).

A map (refer Figure 15) dating to 1903 was found which clearly indicates that a section of the construction activities undertaken at ERPM between 1902 and 1905 comprised the first cluster of married quarters associated with the study area and direct surroundings. As can be seen from the figure, the southern four buildings of the cluster were already in existence in 1903. The remaining eight buildings were proposed at the time.

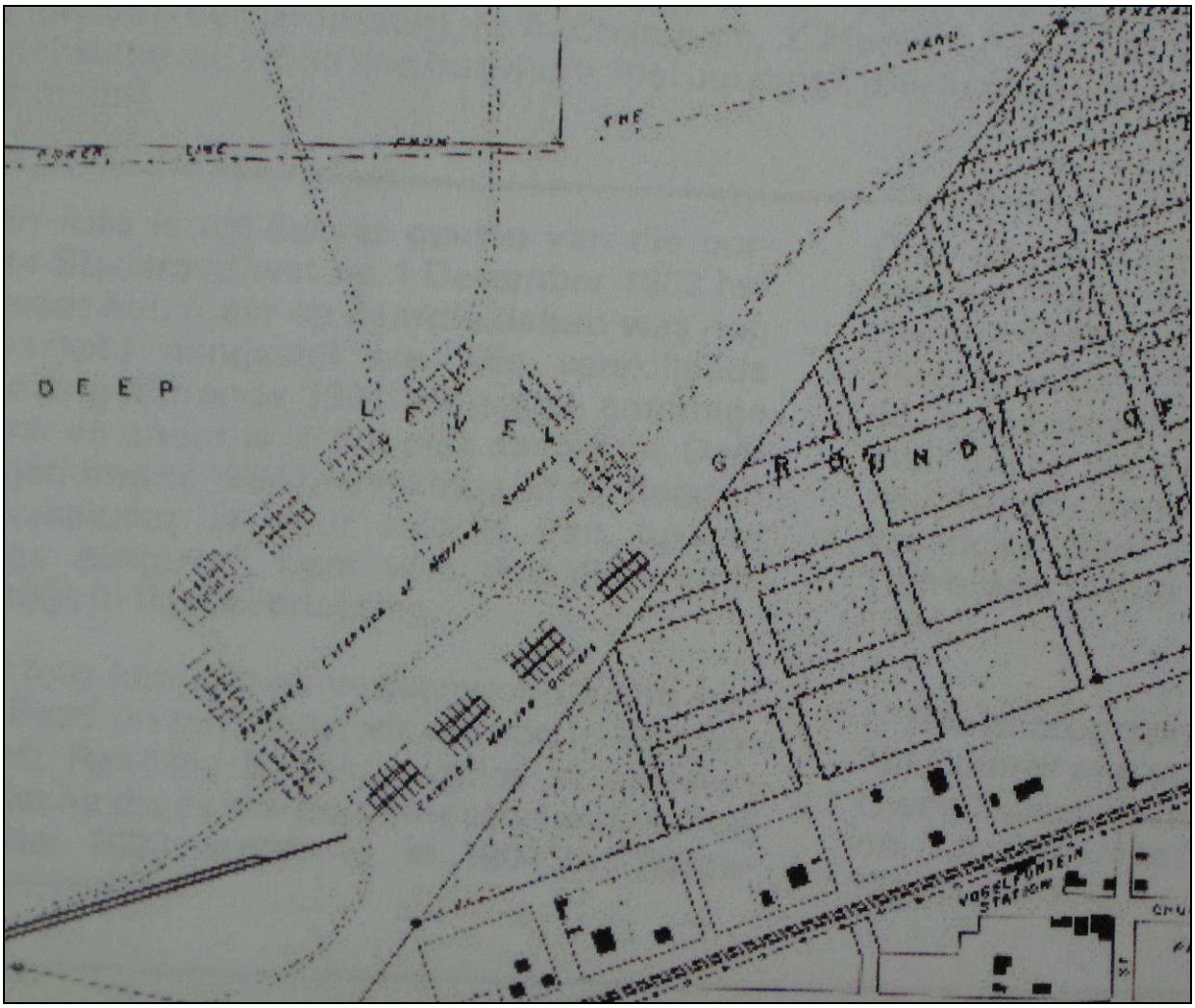

Figure 15 This map was published in the book *Boksburg: 75 years of municipal management* (Boksburg Town Council, 1978/9). All that is known about this map is that it dates from 1903.

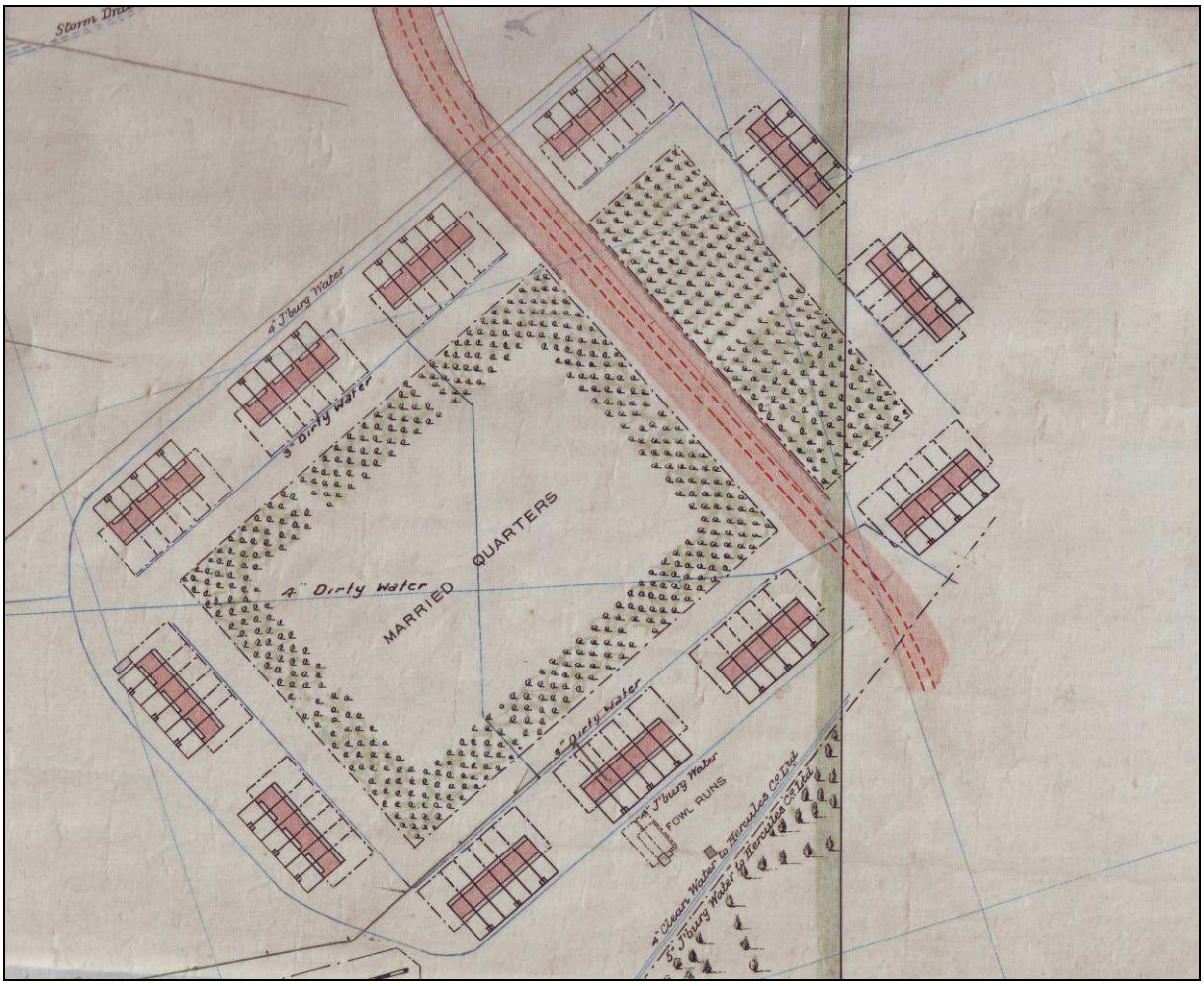

Figure 16 Enlarged section of the map titled 'General surface Plan of the New Comet Gold Mine'. Although the map was surveyed on 30 June 1907, it was revised annually for the subsequent three years. The last revision was undertaken on 30 June 1910. This means that my mid 1910 only the old married quarters existed, with no evidence for the second cluster of married quarters. It is also worth noting that the legend on the map indicates that the old married quarters comprised brick lined iron buildings.

8.3 The Period between 1906 and 1912

During the latter part of the first decade of the 20th century a second wave of construction activities were proposed by ERPM in terms of married quarters for its white employees. In a letter dated 16 August 1909 and addressed to the Boksburg Mining Commissioner, the Financial Manager of ERPM indicated that the mine had received more than 150 applications for married quarters from its employees and that they were proposing to construct a hundred married quarters followed by another hundred. The area proposed for the construction of these married quarters appears to have been the Vogelfontein Plantation as well as a small section of land falling within the study area. As the government had not yet approved any extension to Vogelfontein Township, this proposal was not approved. The notification indicating that the proposed development was not to be approved was written during August 1909 (MMB, 145, MCK1398/09).

This refusal to approve the proposed married quarters indicates that no such accommodation was constructed before August 1909. It also seems very unlikely that additional married quarters would have been constructed within the remainder of 1909.

During the Annual General Meeting of East Rand Proprietary Mines undertaken in March 1910, the chairman Sir George Farrar indicated that a sum of £300,000 had already been spent on housing. As there was still a shortage in housing, another 100 cottages and additions to staff quarters were planned for the following year (East Rand Express, 1910). If one considers the application to erect married quarters that was refused during August 1909, it seems apparent that the £300,000 which had been spent by March 1910 must have included all the married quarters ever constructed at the mine.

On 30 August 1910 an application was made by the East Rand Proprietary Mines to the Acting Mining Commissioner of Boksburg, for proposed married quarters at Cason, Plantation (near the Central Offices) and near Vogelfontein Plantation as well as single quarters proposed for the vicinity of the Central Workshops (MMB, 167, MCK927/10). The proposed new married quarters near Vogelfontein Plantation included the four buildings containing married quarters located within the study area on its southern boundary.

According to Radford (1989) the well known architect Sir Herbert Baker had received three commissions at East Rand Proprietary Mines. While his first two commissions were constructed between 1908 and 1909 (and included additions and alterations to the club house as well as the construction of 14 cottages for married quarters) these were all located away from the study area. However, Baker's third commission from the mine

comprised a total of 80 married quarters which comprised terrace, semi-detached, single story and double story buildings. These buildings were constructed in three different areas, with six at Plantation, nine at Cason and 65 at Angelo Mines. It is known that the construction of the 80 married quarters was undertaken by Forsyth & Reid, that the buildings were constructed at a cost of £475.0.0 each and thirdly that they were constructed between September 1910 and July 1911.

In another article undertaken a year later, Radford (1990) indicates that Baker was responsible for the addition of 65 units to an existing mine village layout at ERPM. This addition was in the form of 13 double storied terrace buildings each of which contained five individual units for use by married European employees of the mine. These 13 buildings referred to by Radford include nine buildings located west of the study area, as well as the four demolished buildings which were located within the study area on its boundary with Vogelfontein Plantation.

It therefore seems evident that the married quarters on the southern boundary of the study area were designed by Sir Herbert Baker and constructed by Forsyth & Reid.

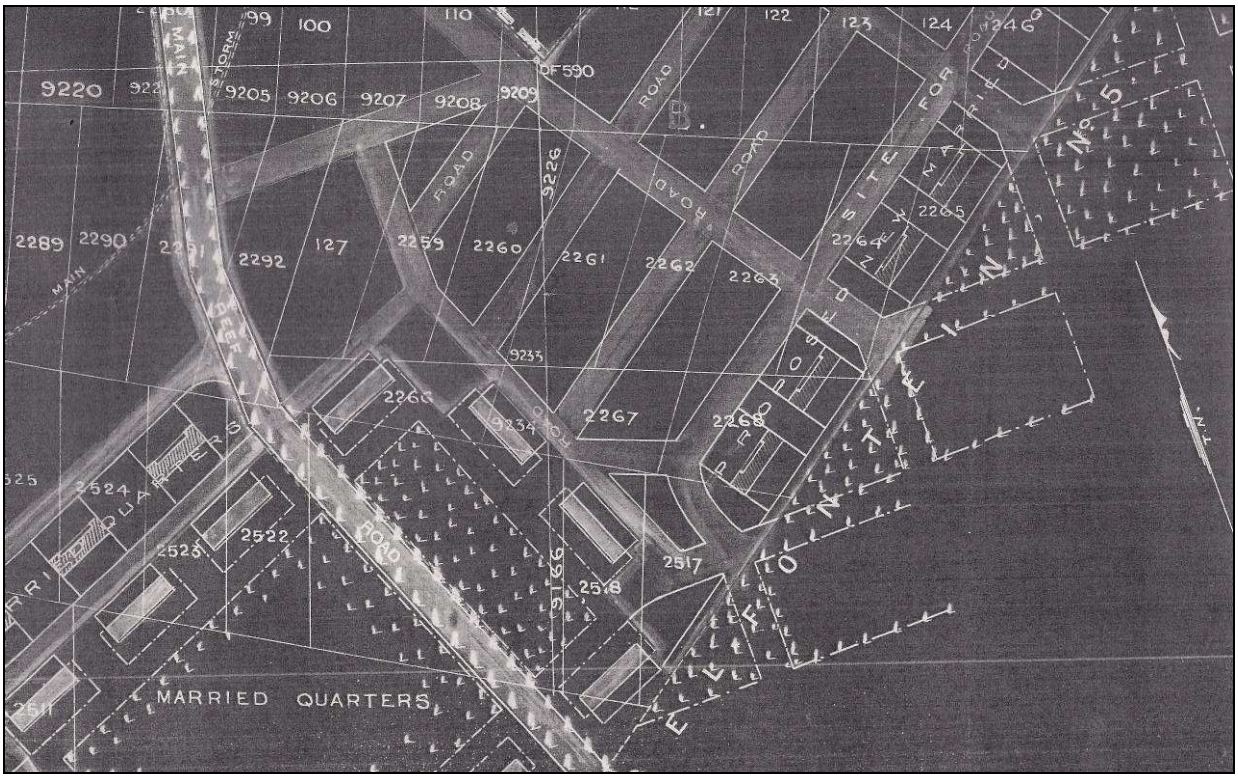

Figure 17 This map accompanied the application of 30 August 1910. It clearly shows that the four buildings which had been located on the boundary with Vogelfontein formed part of this application. It is also evident from the map that married quarters with exactly the same floor plan were also proposed to the west of present-day Rondebult road (MMB, 167, MCK927/10).