

SIDNEY MILLER
Architectural and Archaeological Conservation Consultant

Cell: 082 939 6536.
E-mail: sidneymears@gmail.com.

Postnet Suit 427,
PB X15
Menlopark 0102.

1st Phase Heritage Impact Assessment

**THE PROPOSED RONDEBULT OUTFALL SEWER LINE.
Contract MDC-RON-18-09-25**

CITY OF EKURHULENI



JANUARY 2019.

Through project coordinator: -

Marilyn Govender
Shangoni Environmental Consultants +27 (0)12 807 7036

Report prepared by: -

SIDNEY MILLER.

B.Sc (Engineering) Civil, M. (Architecture) Conservation, Asapa member no 087.

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1. Contact Details.

1.1. Developers.

Company	CITY OF EKURHULENI.
Physical address	6th Floor, Boksburg Civic Centre Cnr. Market Street and Trichardts Rd, Boksburg
Contact person.	Thulani E. Mthembu (Project Manager)
Telephone.	011 999 1093
E-mail.	Thulani.Mthembu2@ekurhuleni.gov.za

1.2. Consultants.

a. Environment. Shangoni Management Services (Pty.) Ltd.	b. Heritage. Sidney Miller.
Contact person. Marilyn Govender.	Contact person Sidney Miller.
Telephone. 012 807 7036.	Telephone. 082 939 6536.
Fax. 012 807 1014.	
E-mail. Marilyn@shangoni.co.za	E-mail sidneymears@gmail.com .

1.3. Type of Development.

Urban infrastructure maintenance.

1.4. Zoning of Site.

Urban.

1.5 Description of the site.

Replacement of an existing sewer line of approximately 11 kilometers running through Elspark, Farrarpark and adjoining mining property located on the old farms Rondebult, Leeupoort and Klippoortjie of the 1899 Map of the Transvaal of Jeppe.



Fig. 01. Above image shows the location of the farms “Rondebult 38”, “Klippoortjie 148” and “Leeupoort 284” over which the sewer line in question are to be built. “Elsburg was laid out on the farm Klippoortjie in 1887 and proclaimed a town in 1908, it was named after the owner, F C Els. It was administered by a health committee from 1908 and by a village council from 1938. Municipal status was achieved in October 1957. It almost became the capital of the goldfields instead of Johannesburg. (Jeppe’s Map of the Transvaal (sheet 5) of 1899.)

2. G.P.S. coordinates of the beacons o the impact area.

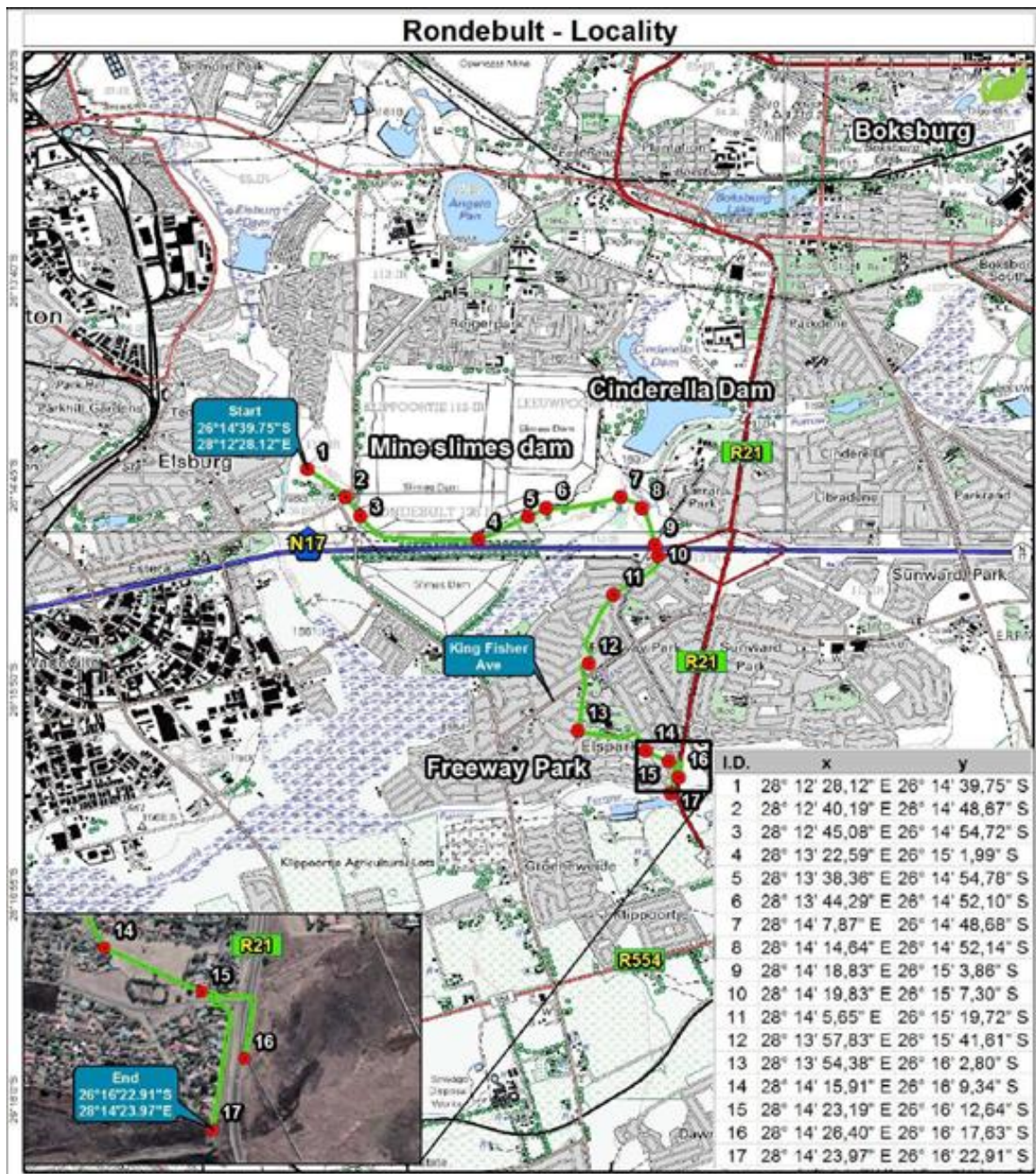


Fig. 02. Above is the position of the sewer line (green lines). (Shangoni e-mail 4th February 2019).

3. Executive Summary.

3.1. Intent of the City of Ekurhuleni.¹

It is the intent of the City of Ekurhuleni to replace a main sewer line in Elspark.

3.2 The project description.²

The proposed Rondebult Outfall Sewer Project is located in the southern suburbs of Boksburg within the City of Ekurhuleni. The proposed project will involve the refurbishment and reconstruction the existing Rondebult Outfall Sewer as the sewer has reached the end of its design life and needs total replacement.

The first phase of the Rondebult Outfall Sewer upgrading / refurbishment involved the sewer bridge located just downstream, past the current end point of the scope of works currently under consideration. The entire pipe length across the sewer bridge was replaced with a new 900mm diameter HDPE pipe. The entire sewer pipeline is protected by servitude (A6439-1970 – 6m wide for sewer servitude).

The proposed refurbishment and reconstruction the existing Rondebult Outfall Sewer **will follow the route of the existing sewer line.** The existing route follows the natural contours (gravity flow). The proposed route will start close to the Elsburg Road (M35) and Heidelberg Road intersection (26°14'39.79" S and 28°12'28.07" E) and ends at the existing manhole link to the sewer (26°16'17.54" S and 28°14'26.30 E").

The proposed project will involve the following scope of works:

- The proposed sewer line will follow the existing pipeline route and will follow the natural contours past existing mining dumps and across smaller bridges and beneath the N17 highway which then flows along the road reserves of the residential suburbs.
- The proposed line will tie in to the existing 900 mm diameter pipe that has been completed as part of the phase 1 construction (as outlined above).
- The proposed Rondebult Sewer Outfall Line will be approximately 7150 m in length with the proposed diameters that ranges from 600 mm to 900 mm.
- The proposed project will involve pipe jacking as not all the crossings have the sleeves that will be re-utilized for the new pipeline.
- The elimination of the Brabant Street Pump-Station with a new gravity flow pipeline into the Sunward Park-Klippoortjie link. The proposed sewer line will be approximately 200 mm in diameter and 350 m in length. The sewer pump station only serves approximately 20 dwellings and was necessitated due to historical boundaries now no longer in effect. The maintenance associated with a typical pump-station and rising main always outweigh that of a typical gravity line, by eliminating the pump -station the maintenance costs per annum are drastically reduced, a clear benefit. The outcomes from the topographical survey for the invert level to the pump-station will determine whether the new gravity link will connect directly to the Rondebult outfall sewer or the Sunward Park- Klippoortjie link. In the interim, a provisional sum will be allowed for in the schedule of quantities for a long connection to the Sunward Park-Klippoortjie link. This section of the sewer pipeline triggers a Water use license as the pipeline will be constructed within the banks of the Channelled Valley Bottom Wetland.

The proposed project forms part of the City of Ekurhuleni Flagship and Capital Projects. The refurbishment and re-commissioning of the Rondebult Outfall Sewer will provide increased capacity to the sewer network in the greater Boksburg area.

¹ Information supplied by Shangoni Management Services, (Pty.) Ltd by e-mail dated Wednesday 16th January 2019.

² Information supplied by Shangoni Management Services, (Pty.) Ltd. by e-mail dated Wednesday 16th January 2019

3.3. Historical milieu.³

Before evaluating the historical background it is important to note that this project is the replacement of an existing sewer line in a twentieth century Metropolis. So technically there cannot be any Historical remains that will be influenced during the replacement of the old line.

Although there are a number of well known Stone Age sites in the greater area, such as the cradle of mankind only some 60 kilometres to the southeast, and the Vaal River sites at Vereeniging such as Redan, *there appear to be no Stone Age industry present on the site.*

Similarly there are indications of Early Iron Age remains recorded at Broederstroom near the Hartebeestpoort dam, and an intense habitation of Later Iron Age Peoples between Zeerust and Cullinan on the rim of the Bushveld Igneous Complex, and the numerous Later Iron Age Highveld sites between Klipriviersberg and Suikersbosrand, but again there is no indication *of Iron Age remains on the site.*

Lastly, the pioneers that entered the Transvaal post 1836, and their continuous interaction with the local inhabitants, mainly the people of *chief' Mizilikazi*, are well documented, especially the occupation of the Magaliesberg range by the followers of Commandant Andries Hendrik Potgieter between 1840 and 1845, well described by Rex (1975), in his history of the Zeerust Hervormde Kerk. As can be seen in figures 01, 02 and 03 the sewer line crosses farmland previously demarcated as "Rondebult", "Leeupoort" and "Klippoortjie". All that is known regarding these farms is that Klippoortjie belonged to one *F.C. Else* and it is on this that Elsburg was laid out. Nothing is left of the original farmyards. *There is no footprint of historical European occupation on this site.*

3.4. Geological and vegetative milieu.⁴

The original geological and vegetative milieu has been so much altered owing to mining and metropolitan development over the last 140 years so that the impact of the proposed replacement of an existing sewer line is negligible.

3.5. Summary of findings.⁵

It is clear from both the desktop study as well as the field-work that the replacement of the sewer line will not impact on anything protected by the heritage Act of 1999.

4. Recommendation.

It is recommended that the City Of Ekurhuleni may proceed with the refurbishing of the sewer line.



Sidney Miller

B.Sc. (Engineering) Civil, M. (Architecture) Conservation. Asapa no 087

³ See section 8 of this report for full description of the archaeological and historical background of the general area..

⁴ See section 7 of this report.

⁵ For full Summary and Recommendations see sections 12 and 13 of this report.

4. Definitions.

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

5. Protected Sites in Terms of the National Heritage Act, Act. no. 25 of 1999.

The following are the most important sites and objects protected by the National Heritage Act:

5. Protected Sites in Terms of the National Heritage Act, Act. no. 25 of 1999.

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.
- j. Any other places or object which are considered to be of interest or of historical or cultural significance
- k. Geological sites of scientific or cultural importance
- l. Sites of significance relating to the history of slavery in South Africa
- m. Objects to which oral traditions are attached
- n. Sites of cultural significance or other value to a community or pattern of South African history

The national estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development on these possible heritage resources. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length

- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures.

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

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of the Act deals with archaeology, palaeontology and meteorites. The Act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant 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 or 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, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the National Health Act (Act 61 of 2003) and to local regulations. Exhumation of graves must conform to the standards set out in the Ordinance on Excavations (Ordinance no. 12 of 1980) (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

The National Environmental Management Act.

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

6. Methodology.

- 6.1.** The site was visited on the 5th of February 2019.
- 6.2.** The site was traversed by following the existing sewer line and monitoring if any previous heritage remains was excluded in previous studies.
- 6.3.** Finds were recorded by GPS readings and photography.
- 6.4.** The above information was recorded and collated in **section 9** of this report.
- 6.5.** Background information concerning the geology and vegetation of the region was collected from reliable resources and is presented in **section 7** of this report.
- 6.6.** Background information concerning the archaeology and historical milieu of the region was collected from reliable resources and is presented in **section 8** of this report.
- 6.7.** In **sections 10 and 11** field ratings (SAHRA minimum standards May 2007) and statements of significance (SAHRA minimum standards May 2007) were attributed to the ***finds as necessitated by individual situation***.
- 6.8.** **Section 12** contains a summary of the research results with a recommendation in **section 13**.
- 6.9.** The collective gist of the information collated in the report is summarised in the executive summary in **section 3**.
- 6.10.** **Appendix 1** contains a declaration of independence by the author.

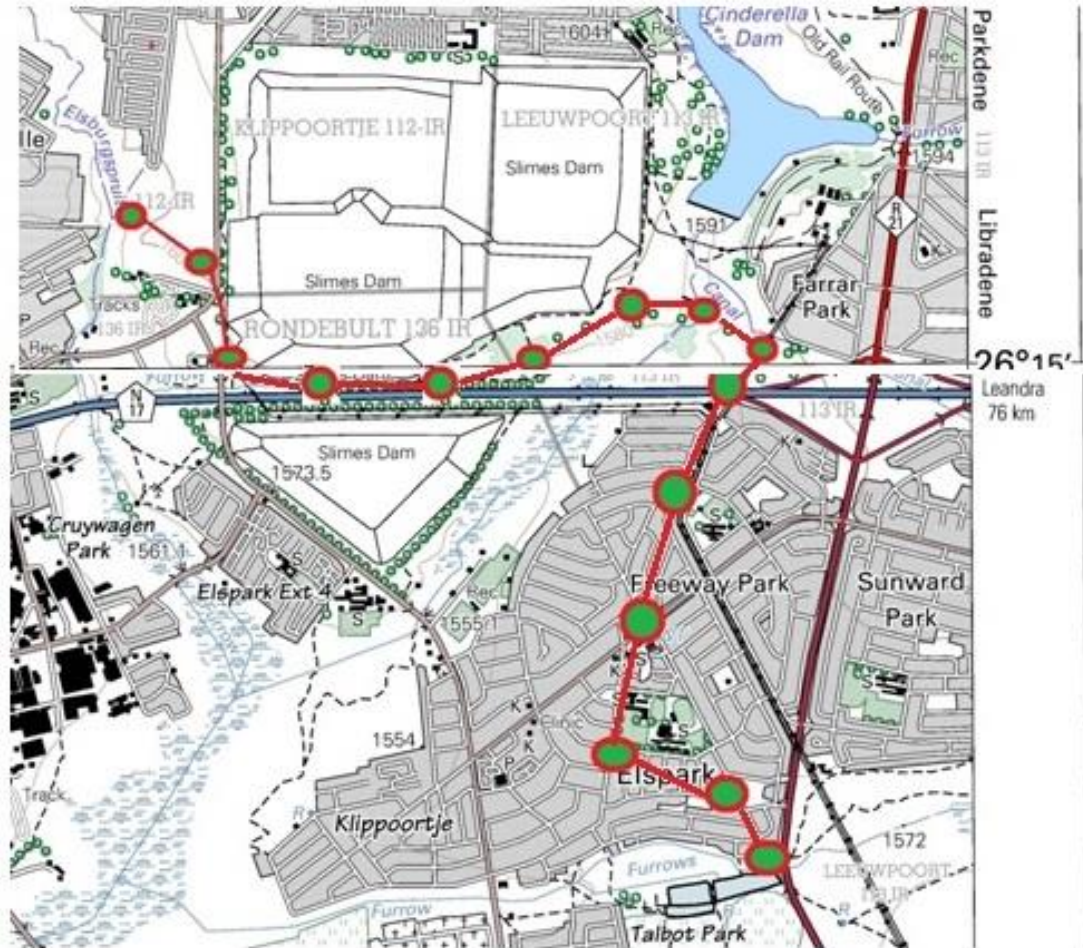


Fig. 03. Above is an image showing the route (marked in red and green) undertaken during the survey of the proposed new sewer line. (1 : 50 000 maps 2628 AA Johannesburg and 2628 AC Alberton.)

7. Environment.

7.1. Geology.⁶

“Rondebult 38”, “Klippoortjie 148” and “Leeupoort 284” are located only a few kilometres to the east of Johannesburg along the old Main Reef Road. To the north and south of it lies the Witwatersrand and the Kliprivierberg. The geological under build of the region is part of the Kaap Vaal croton and the Witwatersrand basin and the impact of the Vredefort meteorite, all older than 2000 million years.

As the geological description of these phenomena has been sufficiently described, in scientific geological terms through time, owing to the importance of the Rand goldfields, it is not necessary to elaborate on in this document. For a full description see *McCarthy and Rubidge, 2005*.



⁶ See McCarthy & Rubidge, 2005, pages 122 to 125, 128 and 140 for full description.

Fig. 04. It has been suggested by some geologists that the bounty of the Rand goldfields may be contributed to the impact of the Vredefort meteorite on the Witwatersrand basin some 2000 million years ago. . (McCarthy and Rubidge, 2005: 118).

7.2. Vegetation.⁷



Fig. 05. “Rondebult 38”, “Klippoortjie 148” and “Leeupoort 284” are located on the veldt type zone 48:- CYMBOPOGON-THEMEDA VELD as illustrated above. Owing to the small size of the property it is classed as being situated in veldt zone 48b:- Northern Variation.. (Acocks, 1988.)⁸

According to Acocks the veldt type 48, which consist of two variations, the Southern and Northern variations. This is the veld of the sandy parts of the wetter higher-lying portion of the Highveld in the north-eastern Cape, Orange Free State and south central Transvaal, undulating to flat country. Altitude ranges from 1350 – 2000 meter above sea level and rainfall from 450 – 750 mm per annum, falling during the summer. Winters are severely frosty. Under these conditions, a mixed to sour grassveld is climax; much of it has either been ploughed-up or been changed in a mining cityscape

For a full list of grass species see Acocks 1988 , p101

⁷ For a full and accurate description of the vegetation see the Vegetation report in the Environmental Impact Report.

⁸ The author is aware of the updated version of Acocks’s work by Mucina & Rutherford, 2010, but for the purposes of this investigation Acocks version is preferred by the present author.



Fig. 06. The Simmer and Jack mine on the farm Driefontein just to the north of the area under investigation photographed circa 1890. This shows the reality of the total absence of trees preceding the advent of mining on the Rand. (Gros, *Pictorial Description of the Transvaal* circa.)

8. Archaeological and Historical Background.

8.1. Stone Age.⁹

Although there is no well know type site located on or around Johannesburg there is evidence of the use of the area during the formative years of humankind in the Tshwane Fountains valley. The environment has not changed markedly during the last three million years and therefore the limestone formations around the Fountains area captured evidence of early hominine activity, similar to the sites in the Cradle of Humankind. In the suburb of Wonder Boom South, next to the large water reservoir adjacent to Voortrekkers Road the young Edwin Hanish discovered a large deposit of Early Stone Age Tools. To archaeologists this demonstrated the prolonged use of the region. During the nineteen sixties and nineteen seventies, a well know photographer Mr Dotman Pretorius collected several thousand stone artefacts along the drainage lines, in the City of Pretoria area from that time. Apart from the earlier tools from Wonderboom Nek he also found tools relating to the Middle Stone Age in the form of smaller hand axes, blades and points.

Regarding the Later Stone Age there does not appear to be much evidence of the hunter gatherers utilising the area, except at caves at the fountains and at Wonderboom. To the west, around Hekpoort and Skeerpoort there occur many petroglyphs that does shows the warmer areas around the Crocodile (Oorie) River were utilised during the last 10 000 years.

Towards the south, along the Vaal River, the renowned Van Riet Lowe also described several large deposits of Stone Age artefacts in the early part of the previous century.

Regarding portion the present survey, it is expected that no Stone Age remains may be encountered.

8.2. Iron Age.¹⁰

8.2.1. Early Iron Age remains.

The only Early Iron Age remains known in the greater region is the Broederstroom village site, and the Melville Koppies Smelting sites excavated by Professor Mason from the Department of Archaeology of WITS.

As these sites are extremely rare in this region, it is rather unlikely that material from the same period will be may be encountered.

8.2.2. Later Iron Age remains.



Fig. 07. Left can be seen the recording of Later Iron Age occupation of the Klipriviersberg from page 49 in Walton (1956).

From the fifteenth century onwards we find a diverse population on and to the north of the southern rim of the Bushveld Igneous Complex. Towards the west one finds first the ancestors of the Sotho/Tswana language groups and to the east the ancestors of Nguni/ Ndebele Speakers. From the eighteenth century onwards stone walled villages arise and cultural materials developed that distinguished the language groups one from another. Owing to population pressure in the

⁹ See Mason, R. 1969. *Prehistory of the Transvaal*.

¹⁰ See Huffman, T. 2007. *Handbook to the Iron Age. The Archaeology of Pre- Colonial Farming Societies in Southern Africa*.

human landscape we also then find shared landscapes that may have been caused by either civil or belligerent interaction. In the second and third decades of the nineteenth century the appearance of Mzilikazi in the landscape brings an abrupt halt to normal African life in the region.¹¹ Many hundreds of remains from this period can be seen in non urbanised areas between Rustenburg and Middleburg showing the intense occupation of the southern rim of the Bushveld Igneous Complex. Where Tshwane is located today is no exception. Even today the remains of circular Ndebele villages can be observed north of Atteridgeville, and in the Bronberg. The *Ou Klipmuur Weg* is the name of a roadway that refers to the stone walls that were destroyed with the construction of *The Willows* suburb. Similarly many stone ruins can still be observed to the east and west (and under) the very affluent Silver Lakes suburb.

Similarly the areas south, east and west of Kliprivierberg was densely populated as can be seen in the recordings of Walton (1956), Mason (1969), Maggs (1976), Huffman (2007) and Giliomee & Mbenga (2007)

Regarding the present survey it expected that no Later Iron Age remains may be found.

8.3. Historical Period.¹²



Fig. 08. The farms surrounding the Johannesburg and Main Reef gold fields as recorded by **Jeppe** in his 1899 *Map of the Transvaal* only 13 years after the discovery of gold in 1886.

After the Great Trek European pastoralists started settling in the Transvaal from 1840 onwards. Some of them chose to farm where Johannesburg was to rise later. Each *burgher* (citizen) was entitled to at least one farm, measuring 1500 morgen or about 3100 acres. Between 1840 and the 1880's there did not happen much on the Witwatersrand. This is owing to the fact that most of the pioneers' political and economic activities were centered on the areas between Potchefstroom, Pretoria, Lydenburg and the Soutpansberg. But after the discovery of diamonds around Kimberley and gold on the Rand things changed rapidly

The first recorded discovery of gold on the Witwatersrand was made by Jan Gerrit Bantjes in June 1884, on the farm Vogelstruisfontein. Other farms to become famous later included Langlaagte, Turffontein, Doornfontein and Braamfontein. George Harrison is today credited as the man who discovered an outcrop of the Main Reef of gold on the farm Langlaagte in February 1886. On 12 May 1886 Harrison and his partner, George Walker, entered into a prospecting agreement with the owner of Langlaagte, one G.C. Oosthuizen. Two days later Colonel Ignatius Ferreira staked out his camp on Turffontein to serve as a centre for diggers.

¹¹ See Wallis, J. P. R. (Editor.) 1976. *The Matebele Journals of Robert Moffat. 1829-1860. Vol. I.*

¹² See Potgieter, F. J. 1959. *Die Vestiging van die Blanke in die Transvaal. (1837 – 1886.)*

Louwrens Geldenhuys found the Main Reef on Turffontein and Henry Nourse located it on Doornfontein. On 8 September 1886 nine farms, extending from Driefontein in the east to Roodepoort in the west, were declared public diggings. Carl von Brandis was appointed as the mining commissioner for the area. On 8 November 1886 a diggers' committee was elected to assist the mining commissioner in the execution of his duties.

The earliest mining activities were concentrated along and adjacent to the outcrops of the main reef. Initially the diggers could perform the work themselves, using relatively little equipment. As the pits grew deeper, they needed additional laborers and machinery. Black Africans were recruited to perform the unskilled work. Machinery had to be imported from Europe and fuel had to be found to power the machinery. The discovery of coal on the Far East Rand at Springs and Boksburg, as well as the construction of the Rand Steam Tram from the colliery to the gold fields and into Johannesburg facilitated the growth of the industry in its early years.

Soon, too, the railway arrived from the coast: in September 1892 the Cape railway reached the Rand. Two years later the line from Lorenzo Marques (now Maputo) arrived in the Republic and a third route was opened from Durban the next year.

In 1890 the MacArthur-Forrest cyanidation process successfully overcame the problems of treating the refractory ore from deeper levels. It soon became apparent that individual diggers were not equal to the task of mining gold in Johannesburg. Wealth could only be recovered by means of deep-shaft working and by capital-intensive companies having the necessary technical skills. Individual claims were soon joined into small mining groups. The amalgamation of smaller mining groups became a common occurrence and by 1895 the scene was dominated by a limited number of large monopolistic companies. These companies were: the Wernher-Beit-Eckstein group, Consolidated Goldfields, the J B Robinson group, the S. Neumann group, the Albu group, the A Goerz group, the Anglo-French group and the Lewis-Marks group. Of these, Cecil John Rhodes's Consolidated Goldfields was the most important.

The Zuid-Afrikaansche Republic became the single biggest gold producer in the world, with a contribution of 27, 5 percent in 1898.

The fledgling town of Johannesburg was laid out on a triangular wedge of "uitvalgrond" (area excluded when the farms were surveyed) named Randjeslaagte, situated between the farms Doornfontein to the east, Braamfontein to the west and Turffontein to the south. The property belonged to the government. The Surveyor-General of the ZAR issued an instruction that the farm be surveyed as a township, consisting of 600 stands measuring fifty feet by fifty feet. The first auction of stands took place on 8 December 1886. The settlement was named after two officials of the Zuid-Afrikaansche Republiek (ZAR), Christiaan Johannes Joubert and Johannes Rissik, who both worked in land surveying and mapping. The two men combined the name they shared, adding 'burg', an archaic word for 'fortified city'. Early in 1887 the inhabitants started petitioning the government to proclaim a town council for the area. Eventually in November 1887 a proclamation was issued instituting a health committee. Its area was defined as "the place Johannesburg, including the stands known as Marshall Town and Ferreira's Town".

The committee's authority extended for a radius of three miles from the market square. The mining commissioner and the district surgeon were to be ex-officio members of the committee. The area of the committee's jurisdiction was to be divided into five wards. Each ward could elect one committee member. All adult male inhabitants had the vote. In 1890 six wards were proclaimed, each ward being entitled to elect two committee members. It was only in 1897 that the government approved, in terms of Act 9 of 1897, a town council for Johannesburg. In terms of the Act the area was divided into 12 wards. Each ward could elect two town councilors, one of which had to be a citizen of the ZAR. The Rissik Street Post

Office was built in 1897, having been designed by the architect Sytze Wierda. The Post Office was at one time the tallest building in Johannesburg. The Post Office became a national monument in 1978, and it remained in operation until 1996 when the South African Post Office vacated the building. The monument was gutted by a fire in 2009. The old City Hall is opposite the Post Office in Rissik Street.

Within ten years of the discovery of gold in Johannesburg, 100 000 people flocked to this part of the Zuid-Afrikaansche Republic in search of riches. Colonials, escaping the boredom of small-town life, joined Indians trekking from the sugar fields of Natal. Cape Colored people and Chinese shopkeepers mixed with Africans, eager to experience the fast pace of urban life. Artisans and miners from the gold and silver fields of the Americas and Australia, from coal and tin mines of Europe, joined the wagon loads of men who had learnt their craft in the pits of Kimberley. Jews in search of freedom and employment, headed south to Africa from Eastern Europe and Russia. Mine managers and businessmen, solicitors and engineers, men with skills, education and contacts, confident of their expertise and frequently arrogant in their manner, took up positions in the burgeoning city of Johannesburg and in the new mines along the reef. In addition there were the pimps and adventurers, crooks and philanderers. In January 1890 the Health Committee conducted its first census of the town. They found that Johannesburg had 26 303 inhabitants. There were 13 820 buildings, of which 772 were shops and stores and 261 hotels and bars. The following suburbs were recorded: Booyens, Fordsburg, Langlaagte, Braamfontein, Auckland Park, Marshall's Town, Ferreira's Town, Prospect and Jeppe's Town. There was also a Coolie Location and a Veldtschoendorp, the latter being a shanty town occupied by Dutch citizens of the ZAR.

Another census was conducted in January 1896. It was recorded that Johannesburg then had 102 078 inhabitants, of whom 61 292 lived within the three mile radius of Market Square and 40 786 outside. There were 50 907 Europeans or Whites, 952 Malays, 4 807 Asiatics, 2 879 mixed or other races and 42 533 Natives of whom 14 195 lived within the three mile radius and 28 838 outside. Of the 24 489 Whites born in Europe, 12 389 were from England and Wales, 997 from Ireland and 2 879 from Scotland. Of the 24 500 Europeans born in Africa, 6 205 were born in the Transvaal and 15 162 in the Cape Colony. New suburbs included: Klipfontein, Forest Town, Hillbrow, Berea, Yeoville, Bellevue, Houghton, Vrededorp, Paarl's Hoop, Robinson, Ophirton, La Rochelle, Rosettenville, Klipriviersberg, City & Suburban, Doornfontein, Bertrams, Lorentzville and Troyeville. It was also recorded that there was a Malay Camp, Brickfields, a Coolie Location and a "Kafir Location". Kliptown is the oldest Black residential district of Johannesburg and was first laid out in 1891 on land which formed part of Klipspruit farm.

Germiston was established in the early days of the gold rush when two prospectors, John Jack from the farm of Germiston near Glasgow and August Simmer from Vacha in Germany, struck pay-dirt on the farm of *Elandsfontein*. In August 1887, the pair were on their way to the Eastern Transvaal when they *outspanned* (rest the pack animals) on the farm *Elandsfontein* and decided to stay and buy the land.^{[3]:285} Both men made fortunes and the town sprang up 2 km from the Simmer and Jack mine named after Jack's fathers farm. In 1921 the world's largest gold refinery, the Rand Refinery, was established at Germiston. Seventy percent of the western world's gold passed through this refinery.¹ Although gold mining gradually wound down in Germiston, to the point that by the end of the 20th century it was no longer a mining centre, the Rand Refinery remains as busy as ever.

The town of Springs, is located on the East Rand, or what is now known as the Metropolitan area of Ekurhuleni, in the Gauteng Province. It was founded as a coal and gold mining town in 1904, but its History can be traced back to the second half of the 19th century. From about 1840 farmers moved into the region and claimed farms for themselves, especially after the *Zuid-Afrikaansche Republiek* became an independent republic with the signing of the Sand River Convention in 1852. These farms were large, but the measurements of the borders were

inaccurate and later, when the correct borders had to be documented, there were several extra or odd pieces of land that did not “belong” to specific farms. These odd pieces of land then became state property. Such an odd piece existed between the three neighboring farms *Geduld* (meaning 'patience'), *De Rietfontein* ('the reed fountain') and Brakpan (literally, 'small, brackish lake'). The 685 ha odd piece was given the name *The Springs* by the land surveyor James Brooks, probably because of all the fountains on the land. Another story is that he wanted to name it after himself, but because his name (Brooks) resembled the Afrikaans word *broek* (trousers) so closely, he feared that the Afrikaans farmers in the area would mock it. On 16 September 1884 the official map of The Springs was registered in Pretoria, the Republic's capital. Initially, the land's value was equal to R200. But the discovery of coal and gold and its subsequent mining increased the value considerably.

The coal discovered in The Springs was of a good quality and in 1888 the first contract was signed to mine coal there. Initially mining was on a small scale, but rose when the Great Eastern mine was established. There were a number of corrugated iron houses around the mine and, although there were a few small hotels and general dealers, it was not a town yet. The settlement grew and in 1902 a health committee was appointed to look after the building and location of structures and also the hygiene in the growing township. In 1904 the Grootvlei Proprietary Mines were registered and shafts were sunk. This followed the discovery in 1899 of gold on the farm *Geduld* and the further discovery of the main reef in 1902. In April 1904 The Springs was proclaimed a town, called Springs, the health committee replaced by a town council, and it flourished as a mining town. In 1962, Springs produced 10% of the country's gold and 9% of its uranium. However, by the end of the 1960s the last mine in town, the *Daggafonteinmyn*, was closed. The town did not die, but instead developed into an industrial centre. Today, Springs is well known for its architecture: it has the second biggest collection of small scale Art Deco buildings in the world, after Miami in Florida, USA. These Art Deco buildings were constructed between the two world wars. Other landmarks include several monuments to important figures in the city's development, like Paul Kruger, and the war cemetery where many Colored soldiers are buried who died during the Second World War fighting with the Allied Forces. Important and well-known people who were born or lived in Springs include Nobel laureate Nadine Gordimer, rock musician James Phillips and Afrikaans singer Rina Hugo.

Brakpan is derived from a small pan on a farm called Weltevreden, which was filled with very brackish water and was probably referred to as "*die brakpan*". It was near this pan that the first settlement started. In 1888, a coal seam was discovered and a coal mine under the name of Brakpan colliers was started. When a railway line was constructed from Germiston to Springs, Brakpan became one of the stations along the route. With gold fever running high on the Witwatersrand in the early years of the twentieth century, it was not long before gold was discovered. In 1905, Brakpan Mines Company sunk its first two gold mining shafts.

One of its claims to fame was that it the highest mine dump in the world at that time, its height being 120 meters (390 ft) above ground level. This was higher than any of the pyramids of Egypt except the Pyramid of Cheops. Brakpan's central position makes it a good distribution centre for industry, especially engineering works and foundries. In the late 1990s the municipality approved the construction of a huge casino and entertainment complex, Carnival City, which opened the town to tourists and provided much-needed jobs for the people.

The first activity which drew people to the area was the British coal mining in 1888 and the large coal powered power station also built by the British. A tram line to Johannesburg was built at this time to service the power station. The Main Reef Road linked Brakpan to all the other mining towns in the Witwatersrand. Brakpan was a suburb of Benoni from 1914-1919 when it was granted municipal status. The Brakpan miners were involved in the miners' strike of 1922. The town has gradually lost its importance as a gold mining area as the surrounding

mines became low yield / high cost. Many British residents emigrated during the apartheid era leaving a vacuum in the town which was filled by mostly Afrikaner farmers who had lost interest in farming.

Benoni's inauspicious beginnings were in 1881 when then surveyor-general Johan Rissik found it difficult to assign title deeds to all unclaimed state property. He named a piece of land in the area "*Government Farm Benoni*", after the Hebrew name (meaning "son of my sorrow"), given by Rachel to her son (who later became known as Benjamin) in the biblical Book of Genesis. In September 1887, gold was discovered and the Chimes Mine was established by Cornishmen. The village became known as "Little Cornwall" for a time. Sir George Farrar, the chairman of a mining company, undertook the planning of the rapidly growing mining town in 1904. A river was dammed to create a series of reservoirs for mine use. Today the reservoirs remain and are populated with fish; recreational activities, including boating and picnicking, are enjoyed by many people. Thousands of trees were also planted in the new mining district and it was declared the township of Benoni in 1906. Most residents were British miners followed by a strong Jewish population who had suffered anti-Semitism in Eastern Europe.

In 1907, the first synagogue and the Benoni race track were opened. This horse-racing track was breathtaking by its sheer size as compared to the small mining town in which it was situated. The first race was run on Saturday 7th December 1907 and was won by a pony named Fury owned by John (Jack) William Travis, a Jewish farrier on the gold mine who had imported first racehorses from England for the Benoni race. (Two unusual prizes were awarded for the first race, a mounted golden whip for the jockey and a gold medal for the owner of the pony.

In 1922, the Rand Revolt (or 1922 Strike) broke out throughout the mines on the Witwatersrand and thousands of white miners went on strike. The strike was partly led by the South African Communist Party and was not well received by the South African Government so soon after the Russian Communist revolution of 1917.

Strike quickly degenerated into open revolt, armed miners fighting the South African police and army in the streets. Revolt lasted for about a year and the miners were born by the newly formed South African Air Force (SAAF) during this time. Some of the SAAF aeroplanes were shot down by ground-fire from the miners. During the revolt, Benoni was used as one of the headquarters of the miners and much fighting took place in and about the place. (The Benoni Museum details this episode in the town's history.) During World War II, the South African Air Force trained pilots in Benoni.

In the apartheid era, designated townships for black people was established outside Benoni, namely Daveton and Wattville. The township Actonville was established for Indians whilst Benoni proper was the reserved for whites only.

Kempton Park lies on what was two Boer farms in the South African Republic (ZAR). The first farm was *Zuurfontein No 369* with the title deed issued to Johannes Stephanus Marais on 25 October 1859 and surveyed to be 3000 morgen on 12 December 1859. The second farm northwest of the first was registered to Cornelius Johannes Beukes in March 1865 and was called *Rietfontein 32 IR*.

After the discovery of gold in Johannesburg, 22 km southeast of the farms in 1886, a railway connecting Pretoria to Vereeniging and to the Cape line was constructed in the early 1890s. The railway line did not go through Johannesburg, but passed to the east through the two farms with a station called *Zuurfontein*. That station would be linked by a side-rail to the

Zuid-Afrikaansche Fabrieken voor Ontploffbare Stoffen, a dynamite factory a few kilometers to the north-west.

The city was established on 24 August 1903 when Karl Friedrich Wolff sub-divided a portion of his Zuurfontein farm into 216 residential stands and named the new town Kempton after the German town in Bavaria of his birth. The name was anglicized into Kempton Park.

Although gold has been mined used and exported by indigenous peoples from the Transvaal for many centuries the impact of their endeavours were negligible as compared to what happened in Johannesburg after 1886. Gold was commercially exploited in locations such as Magaliesberg, Pilgrimsrest and Barberton from 1875 onwards. This was largely owing to the influx of many miners that were at that period drawn to South Africa after the discovery of the Kimberly diamond field after 1872. But it was on a relative small scale as compared to the opening up of the Klerksdorp and Johannesburg goldfields after 1886. Now, a hundred and thirty years later gold is still extracted from the same areas.

The growth of the cities and towns along the main reef was a rapid affair and very little is actually known regarding these developments. However the period after the First World War saw a new era in deep level mining, and many hundreds of mining headgear, factories, industrial buildings, and facilities for the housing and training of miners sprang into being. As new technologies were developed, and large sums of money came into circulation, the development of other urban infrastructure became part of the realities of the day. In turn then much of the older mining infrastructure was discarded, and in their places other facilities came into being.



Fig. 09. Above is an image taken by H.F. Gros only two years after the discovery of Gold in Johannesburg. The image was captured from the hill above the Doornfontein farmyard looking southwest over the foundling city. Paardekraal is situated to the far right in the background. Compare with figure 12.

9. Documentation of Data of existing sewer that is to be replaced.



Fig. 10. Above is an image showing the route (marked in red markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)



Figs. 11 and 12. Left. The existing manhole at marker 4 numbered MH10831. Right The view from marker 4 to marker 2. (Photo's S.M. Miller, February 2019.)



Figs. 13 and 14. Left. The view from marker 8 to marker 3. Right. At marker 3 there are two manholes. This is the first one. (Photo's S.M. Miller, February 2019.)



Figs. 15 and 16. Left. The view from marker 3 to marker 1. Right. The second of the two manholes at marker 3. (Photo's S.M. Miller, February 2019.)



Fig. 17. The large sewer line bridge as seen from marker 2. (Google Earth image 2018.)



Fig. 18. This structure occurs at marker 5. (Photo S.M. Miller, February 2019.)



Figs. 19 and 20. Left. Looking from marker 5 towards marker 6. Right looking from marker 6 over the park to marker 5. (Photo's S.M. Miller, February 2019.)



Figs. 21 and 22. Left. Marker 6 is located at the corner of Spekboom Street and Pendennis road. Right. Looking from marker 6 towards marker 7. (Photo's S.M. Miller, February 2019.)



Figs. 23 and 24. Left. Looking from marker 7 to marker 6. Right. Marker 7 is located at the corner of Waaiboom Street and Spekboom Street. (Photo's S.M. Miller, February 2019.)



Figs. 25 and 26. Left. Looking from marker 7 to marker 8. Right. Marker 8 is located at the corner of Waaiboom Street and Spekboom Street. (Photo's S.M. Miller, February 2019.)



Figs. 27 and 28. Left. Looking from marker 8 to marker 9. Right. Looking from marker 8 to marker 7. (Photo's S.M. Miller, February 2019.)



Figs. 29 and 30. Left. Looking from marker 8 to marker 9. Right. The manholes at marker 9. (Photo's S.M. Miller, February 2019.)

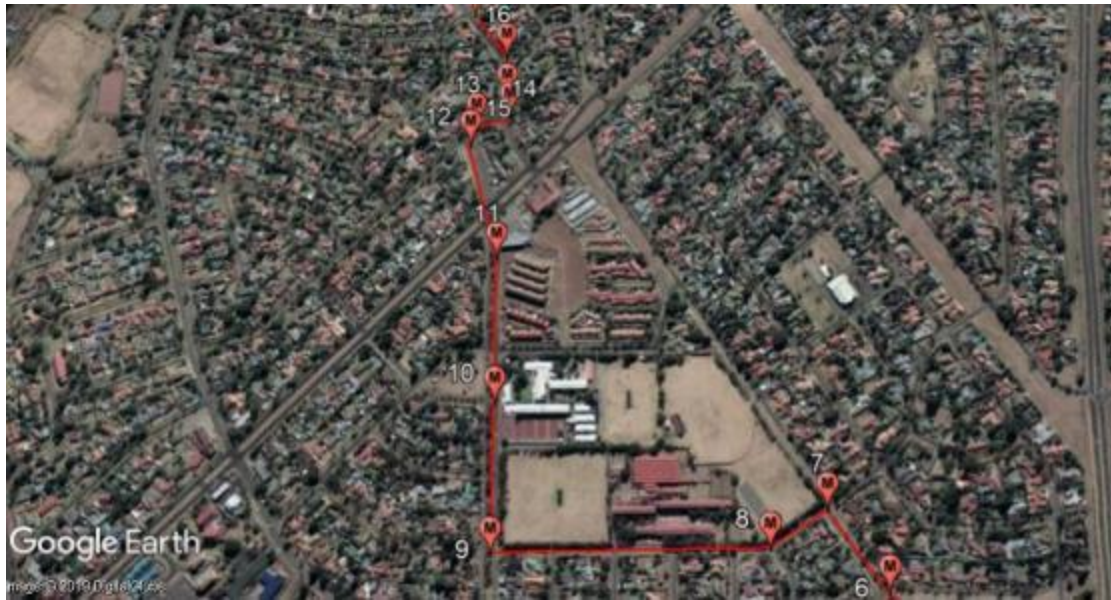


Fig. 31. Above is an image showing the route (marked in red markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)



Figs. 32 and 33. Left. Looking from marker 9 to marker 10. Right. Halfway between markers 9 and 10 at the corner of Raven Street and Swallow Street there is a manhole in the centre of Raven Street, on the island. (Photo's S.M. Miller, February 2019.)



Figs. 34 and 35. Left. The manhole in the centre of Raven Street, on the island. Right. Looking from the Swallow Street manhole to marker 9. (Photo's S.M. Miller, February 2019.)



Figs. 36 and 37. Left. Looking from the Swallow Street manhole to marker 10. Right. The manhole in the centre of Raven Street, on the island, at marker 10. (Photo's S.M. Miller, February 2019.)



Figs. 38 and 39. Left. Looking from marker 10 to the Swallow Street manhole. Right. Looking from marker 10 to marker 11. (Photo's S.M. Miller, February 2019.)



Figs. 40 and 41. Left. Manhole halfway between markers 10 and 11. Right. Looking from manhole at left towards marker 10. (Photo's S.M. Miller, February 2019.)



Figs. 42 and 43. Left. Looking from manhole above towards marker 11. Right. Looking across Kingfisher Avenue to marker 12. (Photo's S.M. Miller, February 2019.)



Figs. 44 and 45. Left. Looking from across Kingfisher Avenue to marker 11. Right. Looking towards marker 12 (Photo's S.M. Miller, February 2019.)



Figs. 46 and 47. Left. One of two manholes at marker 13. Right Looking back towards marker 11. (Photo's S.M. Miller, February 2019.)



Figs. 48 and 49. Left. One of two manholes at marker 13. Right Looking back towards marker 11. (Photo's S.M. Miller, February 2019.)



Figs. 50 and 51. Manhole at marker 14 at corner of Witpeer Road and Fulmar Street. (Photo's S.M. Miller, February 2019.)

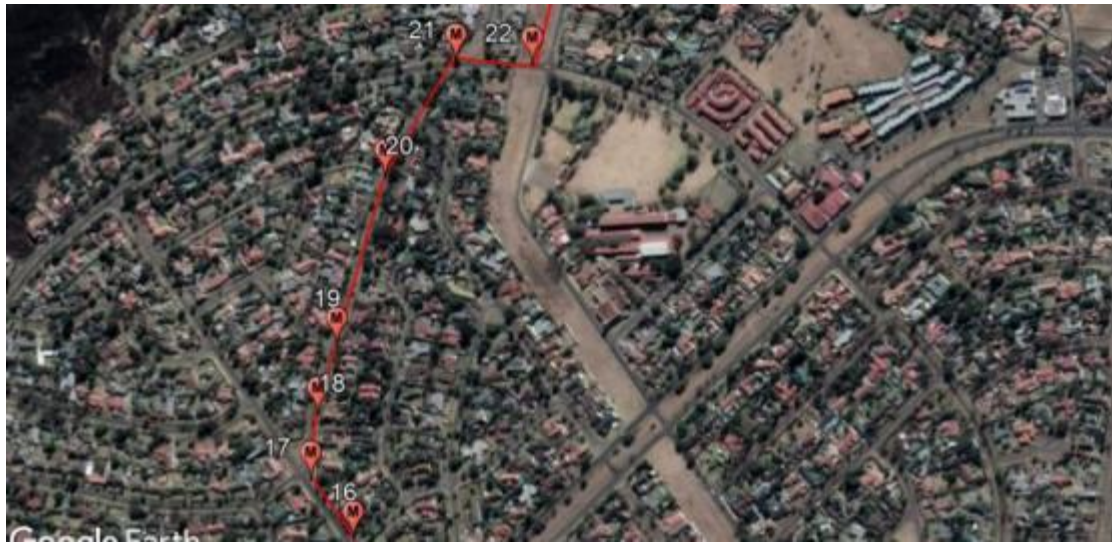


Fig. 52. Above is an image showing the route (marked in red markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)



Figs. 53 and 54. Manhole and street view at marker 15. (Photo's S.M. Miller, February 2019.)



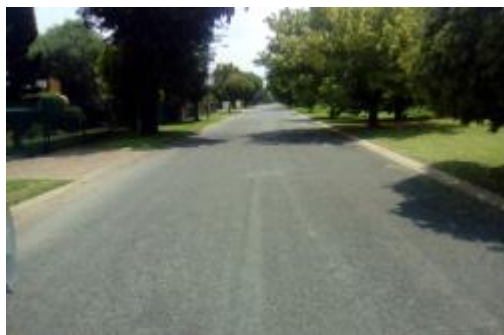
Figs. 55 and 65. Manhole and street view at marker 16. (Photo's S.M. Miller, February 2019.)



Figs. 57 and 58. Two manholes between markers 17 and 20. (Photo's S.M. Miller, February 2019.)



Fig. 59. Above is an image showing the route (marked in red markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)



Figs. 60 and 61. Left. View along Drosdy Street. Right. Manhole at Marker 21. (Photo's S.M. Miller, February 2019.)



Figs. 62 and 63. Left. Marker 21 is located in front of 3 Drosdy Street. Right. Looking towards marker 22. (Photo's S.M. Miller, February 2019.)



Figs. 64 and 65. Left. Marker 22 is located at corner of Steenveld Road and Constantia Road. Right. Manhole at marker 23. (Photo's S.M. Miller, February 2019.)



Figs. 66 and 67. Left. At marker23 looking back to marker 22. Right. At Marker 23 looking towards marker 24 . (Photo's S.M. Miller, February 2019.)



Figs. 68 and 69. Manhole at corner of Tokaiweg and Morgenster road. (Photo's S.M. Miller, February 2019.)



Fig. 70. Line through suburb terminates at Tokaiweg. At this point there are several blocks of flats between with the line passes to yellow marker 10 adjacent to the motorway N17 (Photo S.M. Miller, February 2019.)



Fig. 71. Line crosses motorway N17 between yellow markers 10 and 9. (Photo S.M. Miller, February 2019.)



Fig. 72. Above is an image showing the route (marked in yellow markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)

The area between yellow markers 5 and 9 was not inspected on foot owing to security at the gold reclaiming refinery situated between markers 5 and 7. However it is clear from the Google Earth image that this area was immensely disturbed owing to mining operations. Also as the new line is to be re-laid in the old trench, no heritage material will be disturbed.



Figs. 73 and 74. Between markers 5 and 4 the line follows the road. At present recycling of the dump for gold and all the old pipes are underway. (Photo's S.M. Miller, February 2019.)



Figs. 75 and 76. Between markers 4 and 3 the line follows the road. At present recycling of the dump for gold and all the old pipes are underway. (Photo's S.M. Miller, February 2019.)



Figs. 77 and 78. Between markers 4 and 3 the line follows the road. At present recycling of the dump for gold and all the old pipes are underway. (Photo's S.M. Miller, February 2019.)



Figs. 79 and 80. Left. Looking towards marker 3 from marker 2. Right. The manhole at marker 2.. (Photo's S.M. Miller, February 2019.)



Fig. 81. Above is an image showing the route (marked in yellow markers) undertaken during the on-foot survey of the present investigation. (Google Earth 2018 and refer figure 02.)



Figs. 82 and 83. Left. Looking towards marker 1 from marker 2. Right. Manhole between markers 1 and 2 looking towards marker 2 (Photo's S.M. Miller, February 2019.)



Fig. 84. Manhole between markers 1 and 2. (Photo S.M. Miller, February 2019.)



Figs. 85 and 86. Left. Looking towards marker 2 from manhole in figure 83. Right. Looking towards marker 1 the splitter junction box situated at the side of the hill. (Photo's S.M. Miller, February 2019.)



Figs. 87 and 88. Left. The splitter manhole at marker 1. Right. The contractor's construction camp below marker 1. (Photo's S.M. Miller, February 2019.)

10. Field Rating. (SAHRA minimum standards May 2007.)

Not applicable as no heritage remains will be impacted upon.

11. Statements of Significance. (SAHRA minimum standards May 2007.)

Not applicable

12. Summary

12.1. Intent of City of Ekurhuleni.¹³

It is the intent of the City of Ekurhuleni to replace a main sewer line in Elspark.

12.2 The project description.¹⁴

The proposed Rondebult Outfall Sewer Project is located in the southern suburbs of Boksburg within the City of Ekurhuleni. The proposed project will involve the refurbishment and reconstruction the existing Rondebult Outfall Sewer as the sewer has reached the end of its design life and needs total replacement.

The first phase of the Rondebult Outfall Sewer upgrading / refurbishment involved the sewer bridge located just downstream, past the current end point of the scope of works currently under consideration. The entire pipe length across the sewer bridge was replaced with a new 900mm diameter HDPE pipe. The entire sewer pipeline is protected by servitude (A6439-1970 – 6m wide for sewer servitude).

The proposed refurbishment and reconstruction the existing Rondebult Outfall Sewer **will follow the route of the existing sewer line.** The existing route follows the natural contours (gravity flow). The proposed route will start close to the Elsburg Road (M35) and Heidelberg Road intersection (26°14'39.79" S and 28°12'28.07" E) and ends at the existing manhole link to the sewer (26°16'17.54" S and 28°14'26.30 E").

The proposed project will involve the following scope of works:

- The proposed sewer line will follow the existing pipeline route and will follow the natural contours past existing mining dumps and across smaller bridges and beneath the N17 highway which then flows along the road reserves of the residential suburbs.
- The proposed line will tie in to the existing 900 mm diameter pipe that has been completed as part of the phase 1 construction (as outlined above).
- The proposed Rondebult Sewer Outfall Line will be approximately 7150 m in length with the proposed diameters that ranges from 600 mm to 900 mm.
- The proposed project will involve pipe jacking as not all the crossings have the sleeves that will be re-utilized for the new pipeline.
- The elimination of the Brabant Street Pump-Station with a new gravity flow pipeline into the Sunward Park-Klippoortjie link. The proposed sewer line will be approximately 200 mm in diameter and 350 m in length. The sewer pump station only serves approximately 20 dwellings and was necessitated due to historical boundaries now no longer in effect. The maintenance associated with a typical pump-station and rising main always outweigh that of a typical gravity line, by eliminating the pump -station the maintenance costs per annum are drastically reduced, a clear benefit. The outcomes from the topographical survey for the invert level to the pump-station will determine whether the new gravity link will connect directly to the Rondebult outfall sewer or the Sunward Park- Klippoortjie link. In the interim, a provisional sum will be allowed for in the schedule of quantities for a long

¹³ Information supplied by Shangoni Management Services, (Pty.) Ltd.

¹⁴ Information supplied by Shangoni Management Services, (Pty.) Ltd.

connection to the Sunward Park-Klippoortjie link. This section of the sewer pipeline triggers a Water use license as the pipeline will be constructed within the banks of the Channelled Valley Bottom Wetland.

The proposed project forms part of the City of Ekurhuleni Flagship and Capital Projects. The refurbishment and re-commissioning of the Rondebult Outfall Sewer will provide increased capacity to the sewer network in the greater Boksburg area.

12.3. Historical milieu.¹⁵

Before evaluating the historical background it is important to note that this project is the replacement of an existing sewer line in a twentieth century Metropolis. So technically there cannot be any Historical remains that will be influenced during the replacement of the old line.

Although there are a number of well known Stone Age sites in the greater area, such as the cradle of mankind only some 60 kilometres to the southeast, and the Vaal River sites at Vereeniging such as Redan, *there appear to be no Stone Age industry present on the site.*

Similarly there are indications of Early Iron Age remains recorded at Broederstroom near the Hartebeestpoort dam, and an intense habitation of Later Iron Age Peoples between Zeerust and Cullinan on the rim of the Bushveld Igneous Complex, and the numerous Later Iron Age Highveld sites between Klipriviersberg and Suikersbosrand, but again there is no indication *of Iron Age remains on the site.*

Lastly, the pioneers that entered the Transvaal post 1836, and their continuous interaction with the local inhabitants, mainly the people of *chief' Mizilikazi*, are well documented, especially the occupation of the Magaliesberg range by the followers of Commandant Andries Hendrik Potgieter between 1840 and 1845, well described by Rex (1975), in his history of the Zeerust Hervormde Kerk. As can be seen in figures 01, 02 and 03 the sewer line crosses farmland previously demarcated as "Rondebult", "Leeupoort" and "Klippoortjie". All that is known regarding these farms is that Klippoortjie belonged to one *F.C. Else* and it is on this that Elsburg was laid out. Nothing is left of the original farmyards. *There is no footprint of historical European occupation on this site.*

12.4. Geological and vegetative milieu.¹⁶

The original geological and vegetative milieu has been so much altered owing to mining and metropolitan development over the last 140 years so that the impact of the proposed replacement of an existing sewer line is negligible.

12.5. Summary of findings.

It is clear from both the desktop study as well as the field-work that the replacement of the sewer line will not impact on anything protected by the heritage Act of 1999.

13. Recommendation.

It is recommended that CITY OF EKURHULENI may proceed with the refurbishing of the sewer line.



Sidney Miller

B.Sc. (Engineering) Civil, M. (Architecture) Conservation. Asapa no 087

¹⁵ See section 8 of this report for full description.

¹⁶ See section 7 of this report.

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Guidelines

- SAHRA. Mar. 2006 and edtd May 2007. *Guideline:- Minimum standards for the Archaeological & Paleontological Components of Impact Assessment Reports*

Legislation

Act 25 of 1999:- The National Heritage Act

Appendix 1: Declaration of Independence.

I, Sidney Mears Miller (ID 5412135029082) declare that:

- **I act as an independent environmental practitioner in this application;**
- **I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant;**
- **I declare that there are no circumstances that may compromise my objectivity in performing such work;**
- **I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity;**
- **I will comply with the Act, regulations and all other applicable legislation;**
- **I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;**
- **I have no, and will not engage in, conflicting interests in the undertaking of the activity;**
- **I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;**
- **I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;**
- **I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;**
- **I will keep a register of all interested and affected parties that participated in a public participation process;**
- **I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not;**
- **all the particulars furnished by me in this form are true and correct;**
- **will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations;**
- **I realize that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.**

Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity AND OR proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations,



SIDNEY MEARS MILLER.

Appendix 2: Declaration of indemnity.

The author hereby declares that the mitigation of accidental disclosure of sub-surface heritage remains will be for the account of the client.

This stems from the reality that sub-surface heritage remains can normally not be detected during field-work.

If sub-surface heritage remains are encountered during the life of the project, then a heritage consultant or the Provincial Heritage Agency should be contacted and the issue mitigated according to the National Heritage Act, Act 25 of 1999.



SIDNEY MEARS MILLER.

Appendix 3. Cultural heritage risk assessment.

Not applicable

.Cultural heritage risk assessment.

Environmental impact, extent, duration, significance and degree to which impact has caused irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Archaeology and heritage										
ACTIVITY: Proposed Rondebult Outfall Sewer										
PROJECT PHASE APPLICABILITY: Construction phase										
<p><u>Field rating:</u></p> <p>1. Not applicable as this site falls outside of the protection of the National Heritage Act.</p> <p><u>Statement of significance:</u> Not applicable as the site is not protected by the National Heritage Act.</p> <p><u>Impact description:</u> Proposed activity will not impact on any protected heritage remains</p> <p>Degree to which impact will cause irreplaceable loss: Not applicable.</p>	1	1	L	No objective for preservation as no protected heritage remains appears to occur on site	<p><u>Degree to which impact can be reversed:</u> None.</p> <p>Could be documented in the unlikely event if any does occur.</p>			1	1	L