AFRICAN HERITAGE CONSULTANTS CC

2001/077745/23

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4 June 2013

PHASE I CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR THE DEVLAND NATURNA RESERVOIR AND BULK PIPELINE JOHANNESBURG GAUTENG PROVINCE

A. INFORMATION ON PROJECT:

Heritage Report prepared by:
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Developer and consultant and owner and name and contact details:

Project applicant:
Mr. W. Melato
City of Johannesburg Municipality Department of Housing
P.O. Box 1049, Braamfontein
Tel: (011) 018 6667
Fax: (011) 018 6669

Landowner:
Mr. S Mntungwa
City of Johannesburg SOC (Pty) Ltd
Tel: (011) 219 9000
Fax: (011) 339 2727

Consultant:
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LEAP Landscape Architect and Environmental Planner
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Date: 4 June 2013

A. EXECUTIVE SUMMARY

The project lies in the southern section of the Kliprivierberg. It has two components. The first is the building of a reservoir. When the site was visited the construction of the reservoir was already underway. The second component is the instalment of the water pipeline on the street reserve. A large section of this construction was also already been undertaken.

No important cultural heritage resources or graves were found. The construction of the tar road and other townships infrastructure would have destroyed any possible heritage sites when the township was established.

There is no objection to the construction of the reservoir or the installation of the pipeline from a cultural heritage resources point of view, though the client should be reprimanded for commencing with construction before approval from Gauteng PHRA.

B. TABLE OF CONTENTS

C. BACKGROUND INFORMATION ON PROJECT:

(a) Whether the report is part of a scoping report/EIA/HIA or not

A 24G Application and Basic Assessment

(b) Type of development (e.g. low cost housing project, mining etc).

Construction of a Reservoir to address water shortage in Naturena and surrounding areas

(c) Whether re-zoning and/or subdivision of land is involved.

Current zoned as public open space

(d) Developer and consultant and owner and name and contact details:

Project applicant:
Mr. W. Melato
City of Johannesburg Municipality Department of Housing
P.O. Box 1049, Braamfontein
Tel: (011) 018 6667
Fax: (011) 018 6669

Consultant:
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P.O. Box 13185, Hatfield, 0028
Tel: (012) 334 3582
Cell: 083 302 2116
Fax: 086 606 6130
Email: gwen.theron@telkomsa.net

(e) Terms of reference

To conduct a Heritage Impact Assessment to assess if there is any material of cultural or heritage value under the footprint of the proposed development,

(f) Legislative requirements of Act 25 of 1999.

PROTECTED SITES IN TERMS OF THE NATIONAL HERITAGE RESOURCES ACT, ACT NO. 25 OF 1999

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

- Structures or parts of structures older than 60 years.
- Archaeological sites and objects.
- Paleontological sites.
- Meteorites.
- Ship wrecks.
- Burial grounds.
- Graves of victims of conflict.
- Public monuments and memorials.
- Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette.
- Any other places or objects, which are considered to be of interest or of historical or cultural significance.
- Geological sites of scientific or cultural importance.
- Sites of significance relating to the history of slavery in South Africa.
- Objects to which oral traditions are attached.
- Sites of cultural significance or other value to a community or pattern of South African history

D. BACKGROUND TO THE ARCHAEOLOGY AND HISTORY OF THE AREA.

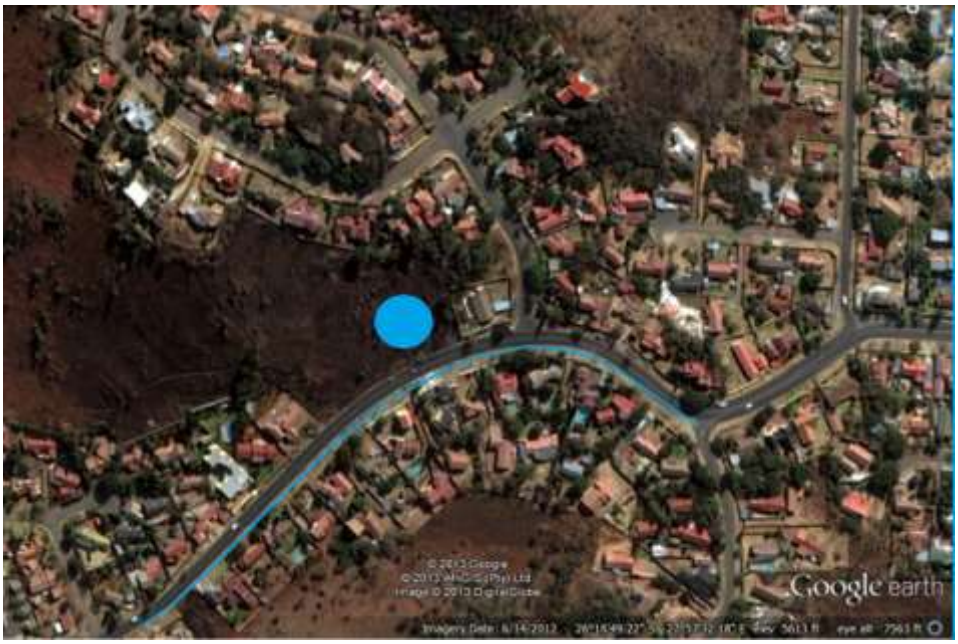


Figure 1. *The blue circle on this Google Earth image indicates the location of new reservoir in position 26°16' 49, 44" S and 27°57' 31, 07" S*

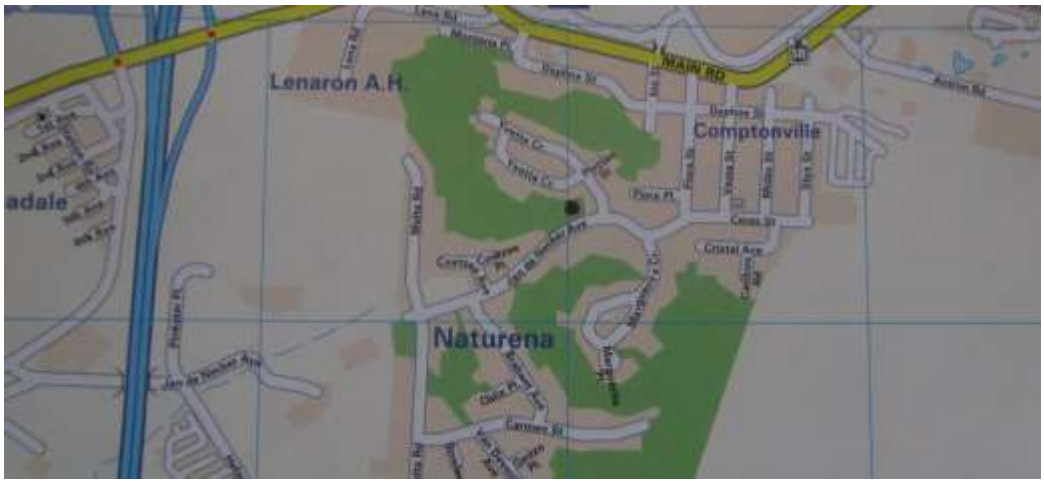


Figure 2. *Location of Jan de Necker Street in MAP STUDIO STRRET GUIDE OF Southern Gauteng*

Geology. (See McCarthy & Rubidge, 2005, for full description.)

If it had not been for the mineral composition of the geological under-build of the region then it is very possible that this structure would not have existed: - the gold deposits, and its associated minerals, that were deposited along the world famous MAIN REEF. The origin of these geological phenomena is a rather complex narrative, which possibly only a few geologists understand. We quote from McCarthy and Rubidge, page 102.... *'The rocks of the Witwatersrand Supergroup were originally widely distributed over the Kaapvaal Craton, but much has been removed by erosion, leaving only the scattered remains shown in figure 03. The enlarged inset shows the main area of preservation of the Witwatersrand Supergroup basin. The major goldfields occur in an arc around the western and northern sides of the basin. The locations of uthese goldfields were determined by earth movements along faults such as the Thabazimbi-Murchison (TML) Line, the Rietfontein (RIET) Fault, the Sugerbush (SHB)Fault and the Border (BORD)Fault.*

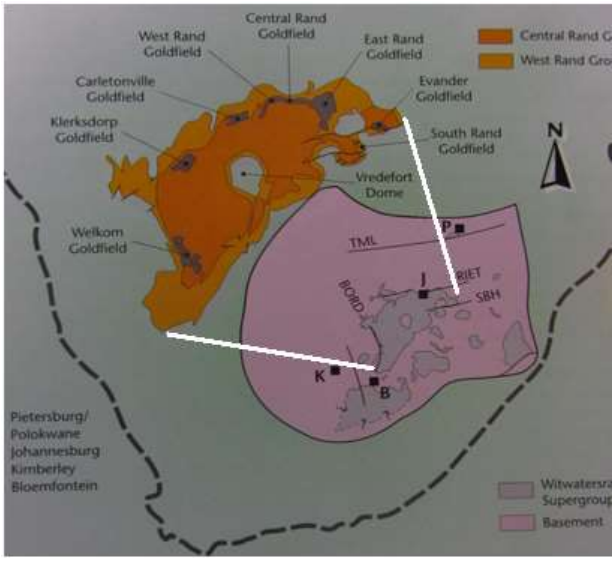
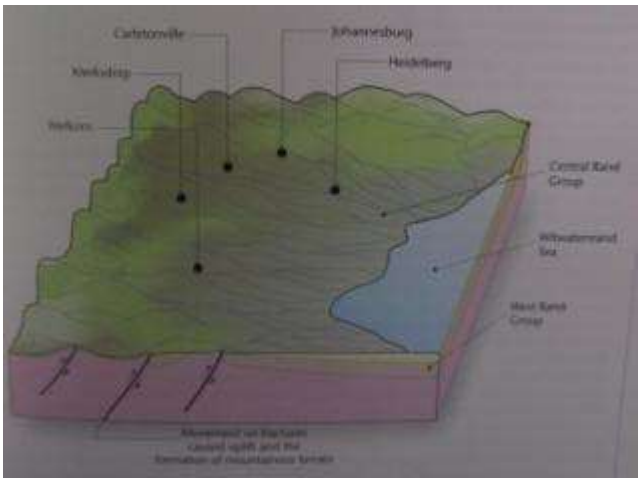
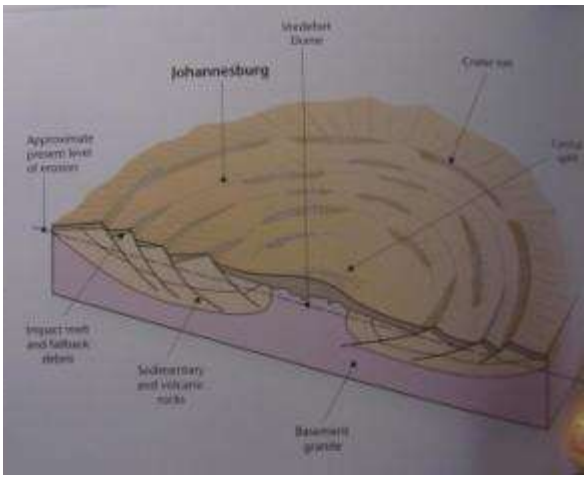


Figure 3. *The remains of two pre Pangean continents, the Kaapvaal Craton and the Zimbabwean Craton collided some 2700 million years ago. This resulted in the tilting of the Kaapvaal Craton and the erosion and winnowing of heavy metals into a shallow sea. The area shaded pink is an estimated shape of the Transvaal Craton, while the orange area is an enlargement of the central goldfields.* ***(McCarthy and Rubidge, p 102.)***





Figures 4 and 5 *The two most important reasons for the central South African Goldfields; - dilution of heavy minerals into ancient maritime environments and the Vredefort meteorite impact event. (**McCarthy and Rubidge, p 103 and 136.**)*

The geologists now continues with their narrative that the crust tilted again trapping the gold deposits on the one side of the Trandvaal basin between 2 700 and 2 000 million years ago. With the impact of the Vredefort meteorite, large portions of the gold bearing geological structures were infolded by the impact phenomena, effectifly shielding it agains erosion and therefore peserving large portions of the original deposits.

Although the gold of the Zimbabwe Craton were found and utilised by Africans more than a thousand years ago, the Central goldfields were only discovered in 1886 after the Pilgrimsrest, Baberton and Magaliesberg alluvial fields were identified in the 1870's.

Vegetation (See Acocks, 1988)[1]
According to Acocks one may encounter three of his original Veldt types in and around Johannesburg. To the north of Johannesburg we find his veldt type 61. This consist of three variations, the (a) Eastern, (b) Central and (c) Western categories. In Johannesburg's case it is Type 61 b that concerns us. Apparently it is possible that this type is a derivative of an ***Acacia caffra*** savannah which it still is in parts. It is a sparse and tall tufted type with the forbs playing an important part, and is extremely sour. It is the veldt type of the Witwatersrand and the high undulating country sloping down to the Mogalies Mountain. The rocks are mainly quartzite, shale, dolomite, chert and granite. The soils are poor and acid, either stony or sandy with an altitude of 1450 to 1750 meters above sea level. Rainfall is in the region of 750 mm per annum and the winters are cold and frosty. Combined with continuous burning the veldt is particularly sour and supports wiry grazing, not particularly edible for livestock. At the Rietvlei research station though, it was shown that the veldt was particularly suitable for intensive farming.

[1] The author is aware of the updated version of Acock's work by Mucina & Rutherford, 2010, but for the purposes of this publication Acocks version is preferred.

Rocky ridges carry a Bushveld vegetation dominated by ***Protea caffra, Acacia caffra, Celtis africana and sometimes P. welwitschii*** as well as a large number of South Bushveld shrubs in smaller quantity. A typical plant of the hills is ***Xerophyta retinervis.*** In sheltered valleys and sinkholes there are traces of temperate or transitional forest, with such species as ***Celtis africana, Kiggeleria africana, Halleria lucida, Leucosidea sericea, Buddleja salviifolia*** and ***Cassinopsis ilicifolia***, for example in the Fountains valley at Pretoria, which is greatly in contrast with the traces of tropical forest a few miles away in the kloofs of the northern slopes of the Mogalies Mountain. For the extremely long lists of grass species and succulent species see page 114 of Acocks.

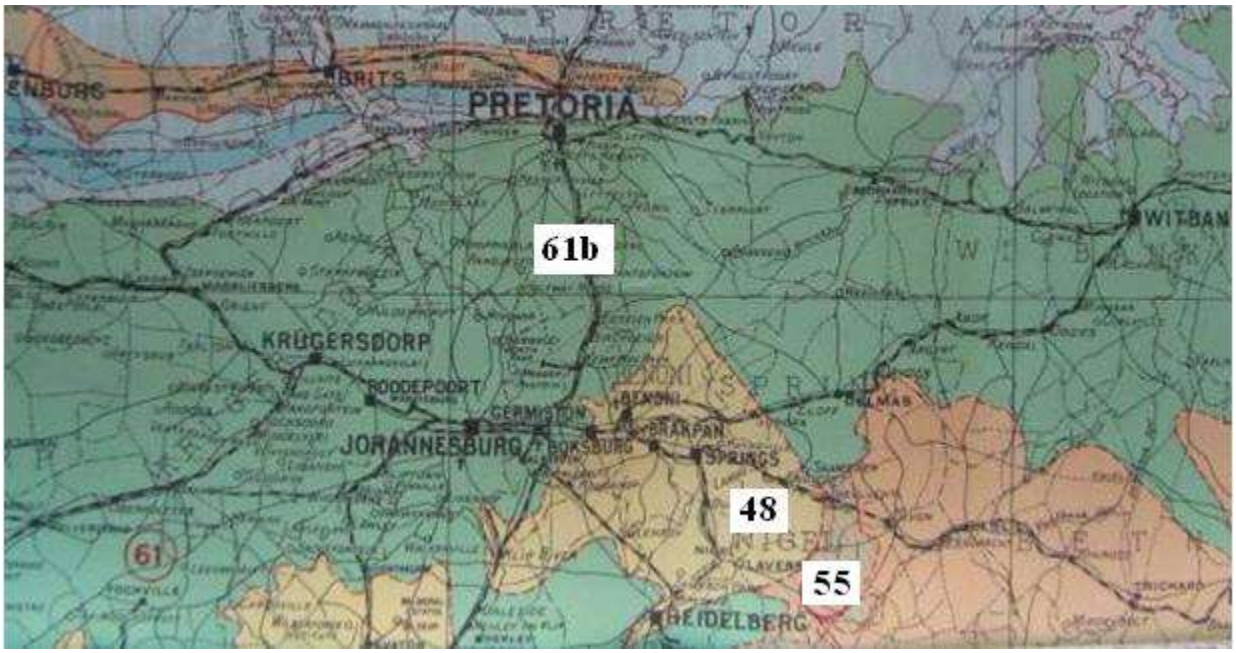


Figure 6. *'Johannesburg' is located on the intersection of two different veldt type zones as illustrated above, with a third located towards Heidelberg.* ***(Acocks map, Veldt Types of Southern Africa.)***

Acocks describes his type 48 as ***Cymbopogon-Themeda*** grass-veldt. It also consists of two regions, north and south, the south being a moderately dense grass-veldt, and the north a sparser more tufted veldt. Altitude varies between 1350 and 2000 m above sea level with summer rain of between 450 and 750 mm per annum with severe frosty winters. Amongst the grasses that generally occur are ***Setaria flabellate, Themeda triandra, Heteropogon contortus***, a number of ***Eragrostis*** species and others (Acocks p 100-101)

The greatest impact that this vegetative composition had on the development of the gold fields was that there was no wood available for either shelter, construction work, heating or food preparation.

ARCHAEOLOGY

Stone Age

Although there are no well know type site located on or around the suburb of 'Naturena' there is evidence of the use of the area during the formative years of humankind along the Kliprivier[2]. At Vereeniging the well known Van Riet Lowe discovered extensive stone tool ensembles that at that time were protected as national heritage sites.

Regarding the Later Stone Age there does not appear to be much evidence of the hunter gatherers utilising the area, except for petroglyphs that occur at Redan some twenty kilometres to the south and several engraving sites along the Vaal river near Vereeniging and Van Der Bijl Park that were utilised possibly by pastoralists and/or hunter gatherers during the last five millennia.

Regarding the reservoir and short supply line, Stone Age remains will not influence the development.

Iron Age

Early Iron Age remains.
The only Early Iron Age remains known in the greater Johannesburg region is the Broederstroom village site, and the Melville Koppies Smelting sites excavated by Professor Mason from the Department of Archaeology of WITS in the 1980's.

As these sites are extremely rare, it is rather unlikely that material from the same period will be found in the present study area.

Later Iron Age remains.
From the fifteenth century onwards we find a diverse population of Iron Age people utilizing the grasslands of the Highveld. 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 from another. Owing to population pressure in the human landscape we also then find shared landscapes that may have been through either civil or belligerent interaction. In the second and third decades of the nineteenth century the appearance of Mzilikazi in the landscape to the north brings an abrupt halt to normal African life.

Many hundreds of remains from this period can be seen in non urbanised areas between Parys and Heidelberg a rather intense occupation of the region, the best known are those excavated by Mason on Klipriviersberg.

Regarding the reservoir and short supply line Iron Age remains will not influence the development

EUROPEAN SETTLEMENT

[2] The tools discovered by Van Riet Lowe were from the early and middle stone age periods

The Great Trek

The Great Trek is rather incorrectly named, as no more than between five percent and twenty percent of the Cape population in fact left British Authority, over a period of three to four years. With the split between the Maritz Group and the Pretorius group and the fragmentary nature of the 'Northern Group' there was little coherence in their 'settlement plan', and many were originally simply killed by indigenous people such as the Van Rensburg Trek, or by the rigorous and dangerous nature of Africa such as the Louis Trichardt Trek. Some prematurely settled in 'towns' such as De Clercq and only over a period of ten years were Potchefstroom, Lydenburg, Ohrigstad and Schoemansdal born. Although towns were founded, they were only functional as focal points for religious, political, governance and trade activities. Most of the populace were settled on farms and retained townhouses for periodical visits.

Shortly after the 'end' of the Great Trek circa 1840 a number of families settled in, on and around the warmer Bushveld hunting ground to the north. They soon realised though the discomfort of the summer in the Lowveld regions, and the obvious advantages of the Highveld being cooler and hosting good grazing. This resulted in the two farm system with whole households and their livestock oscillating between the two regions

Figure 7. *'Johannesburg' as documented in 1899 by Jeppe. It shows that the 'main reef' focal points such as Randfontein, Krugersdorp, Roodepoort, Florida, Johannesburg, Germiston Boksburg and Benoni and Brakpan had already been established and that the new railway line had already linked these important mining nodules soon after the Second South African War.*

Figure 8 Remains *of one of the Schutte family's dwellings from the 1850'on the farm Deelkraal to the southwest of Johannesburg that is typical of the early pioneers.)*

Figure 9. *Willem Petrus Prinsloo (1820-1898) is one of the famous landowners in Johannesburg's history. He owned the farm Modderfontein during the discovery of the Johannesburg goldfield that was purely used for the movement of his livestock to and from the winter grazing. A mining syndicate bought his farm for a 'princely sum'. With this money he purchased a number of farms to the north, amongst others the farm Elandsfontein from the Minnaars, old friends of his family, in 1896. The 699 hectares of land (Elandsfontein) Modderfontein turned out to be the Brakpan and Benoni gold fields and Elandsfontein turned out to be the Cullinan diamond mine.* ***(Helme 1974:35).***

Johannesburg

The original population of the Z.A.R. (or the Transvaal) were Dutch pastoralists and their most dire wish was to be rid of the governance of Britain, especially regarding the laws related to slavery. The Dutch were also well aware of the British hunger for minerals and were doing their best to subdue and restrain any rumours concerning the presence of minerals in the Transvaal. This state of affairs is best illustrated with the way that Carl Mauch was unceremoniously bundled out of the Z.A.R. in 1872 after three years of geological survey and remarkable discoveries. As he was not allowed to return he committed suicide in Germany soon after.

But word got out of his work and soon the floodgates opened. On the back of the Kimberly Diamond field's wealth it was not long till the Eersteling gold near modern day Polokwane and the Magaliesburg gold was discovered circa 1875. This was soon followed by the Pilgrims Rest fields, and the Baberton fields, but none could imagine what the conglomerates of the MAIN REEF were holding in stall for a gold hungry world.

As with Kimberly, the gold was first mined by individuals, working on claims, but as time went on, the 'big players' stepped in with expensive machinery and consolidation laying the base for the modern mining industry that we are now familiar with.

The second South African war from 1899 to 1902 settled the 'ownership' of the goldfields, but soon after the ounces per tonnage dropped to such a low level that the gold industry was on the verge of collapse. With the new cyanide process, the industry was revived, only to be confronted with the First World War, the mining strikes in the early 1920's, the depression of the 1930's, the Second World War in 1939, the apartheid government of 1948, the independence in 1960 and the 'new South Africa' in 1994. Now in 2012 gold is still being extracted after 130 years.

In all the above it is clear that mining cannot continue without the most essential ingredient:- manpower. Then there is the other elements, energy, machines parts, food and equipment for workers, schools for workers children, doctors lawyers and effectively a whole host of people in support services.

And all of these people were in need of accommodation. From this then we find that every era of the mining industry resulted in different architectural styles suited for different economic layers of the society.

F. DESCRIPTION OF PROPERTY OR AFFECTED ENVIRONMENT

(a) Detail of area surveyed

- Full location Data for Province, Magisterial District/Local Authority and property (e.g. farm/erf) name and number etc.;

    (i) Location Province: Erf 756 Naturena, City of Johannesburg, Gauteng Province
    (ii) Location map name: Lenasia 2627BD

(iii) Site map attached pages 17 – 19.

(b) Description of methodology

The area was visited for a day and inspected on foot and by vehicle. It was found that construction of the reservoir and pipeline had already commenced. The excavations had the benefit that one could also investigate the soil profiles.

The problem with the construction work in progress is that the original surface had been totally destroyed.

A literature search was conducted. The nearest archaeological sites are the Late Iron Age settlements at Kliprivierberg. The area was photographed.

G. DESCRIPTION OF SITES IDENTIFIED AND MAPPED

The development site has two major components. The first is a new large reservoir. The whole area had already been bulldozed and excavated. The construction of the reservoir had already commenced – see photograph below.

Reservoir site under construction

The second part of the project is the instalment of a new bulk water pipeline along Jan de Necker Street. The pipeline will run in the road reserve. This area has been extensively altered when the original street was built, which would have destroyed any heritage sites. As already mentioned above the excavations for the pipeline had already commenced – see photograph.

Road reserve where pipeline will be installed

Excavations for pipeline in road reserve

Road reserve after installation of pipeline

No important cultural heritage resources or graves were found on or near the construction site

H. DESCRIPTION OF THE ARTEFACTS, FAUNA, BOTANICAL OR OTHER FINDS AND FEATURES

None

I. CLEAR DESCRIPTION OF BURIAL GROUNDS AND GRAVES

None

J. FIELD RATING

Not applicable

K. STATEMENT OF SIGNIFICANCE

Not applicable

L. RECOMMENDATIONS

There is no objection to the proposed development from a cultural heritage resources point of view as there are no important cultural heritage resources or graves were found. The client should however be reprimanded for commencing with construction before approval from PHRA was received.

If during construction any cultural heritage resources or graves are unearthed all work has to be stopped until the site has been inspected and mitigated by a cultural heritage practitioner.

M. CONCLUSION

No cultural heritage resources were found on or near the construction site.

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O. APPENDIX

Maps pages 17 - 19


LENARON A.H.
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FLORA
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MIDAS
CERES
VIVETTE
COETZEE
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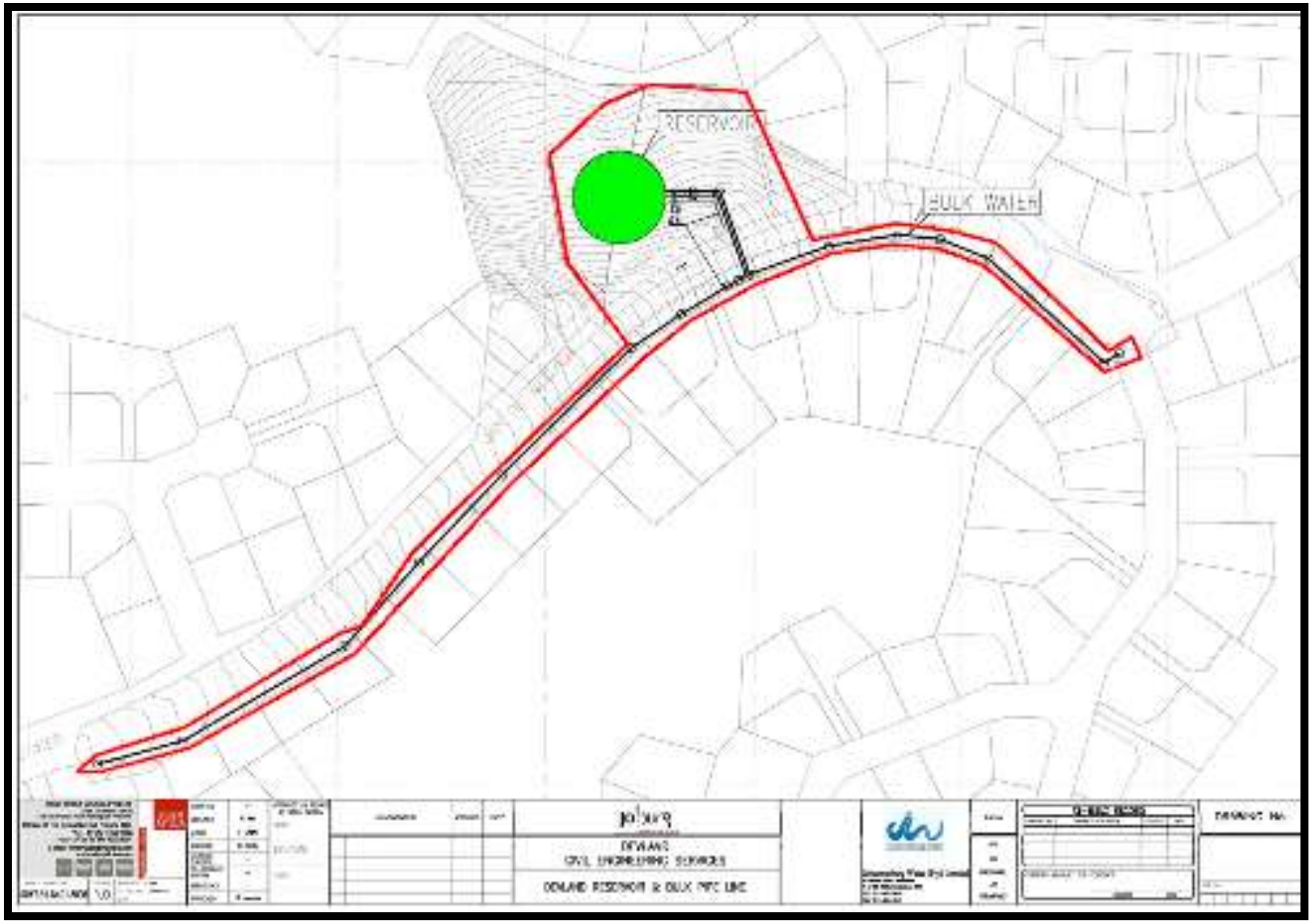
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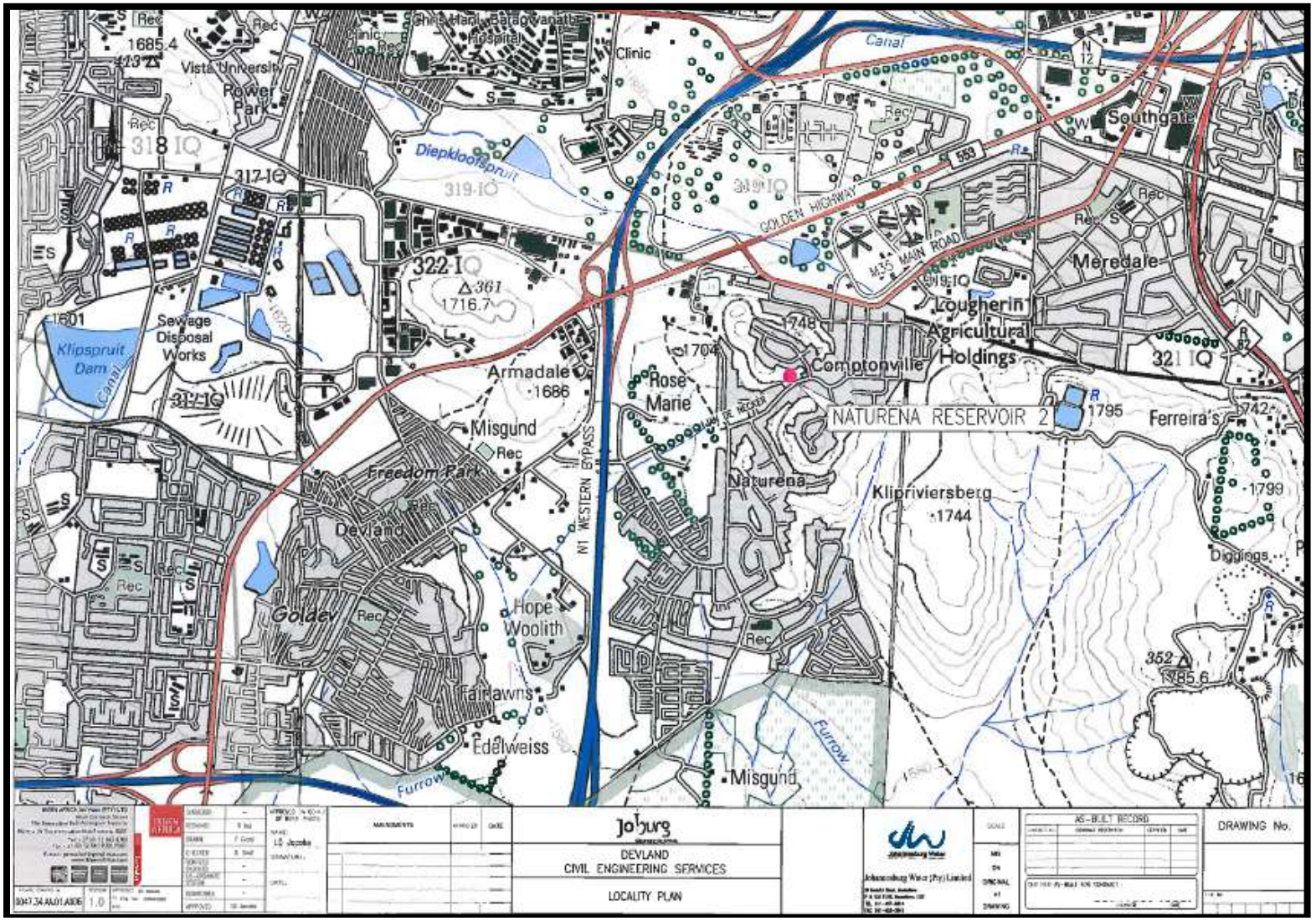
BULK WATER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Rewer Park
Diepkloofspruit
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Southgate
GOLDEN HIGHWAY
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Meredale
Lougherin Agricultural Holdings
Comptonville
Rose Marie
Armadale
1686
Misgund
Rec
Freedom Park
Devland
Goldev
Hope Woolith
Fairlawns
Edelweiss
Furrow
Misgund
N1 WESTERN BYPASS
NATURENA RESERVOIR 2
1795
Ferreira's
Naturena
Klipriviersberg
1744
Diggings
1799
1742
1748
1704
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Klipspruit Dam
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DEVLAND
CIVIL ENGINEERING SERVICES
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