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B-BBEE LEVEL THREE CONTRIBUTOR

Your ref.:

Our ref.: W1820/3.7-07-erf 915

01/07/2019

**Attention: Mr. J. Meyer**

IQ Vision  
100 Sarel Cilliers street  
STRAND, 7140

Dear Sir,

**PROPOSED DEVELOPMENT OF ERF 915: INDUSTRIAL PARK, OFFICES AND RESIDENTIAL UNITS ON ERF 1337: OFFICES - SERVICES REPORT**

**1. LOCATION**

The proposed development is situated on the R45 between Paarl and Simondium, approximately 14km from Paarl. Erf 1337 is zoned for light industrial use and has partially been developed. The erf is surrounded by agricultural land. Erf 915 abuts this site to the northwest.

**2. DESCRIPTION**

The proposed development comprises the following:

Industrial: 9 088 m<sup>2</sup> GLA  
Offices: 5 960 m<sup>2</sup> + 1 278m<sup>2</sup> = 7 238m<sup>2</sup> GLA.  
Housing: 12 x 49m<sup>2</sup> units

**3. PROPOSED SERVICES**

**3.1 Roadworks**

Entrance Roads:

A TIA is being undertaken to determine the upgrades required at the intersections with the provincial roads. The Industrial and Office park development will take access off the R45 between Paarl and Franschoek. This road is programmed to be upgraded in the medium term. The entrance road crossings on Erf 1337 will be 7.5m wide with an 35m outside diameter traffic circle. The surface will be paved with 80mm interlocking pavers.

The entrance road to the housing component of the development will be from the R45 heading to Klappmuts. This road will remain a gravel road.

Internal Roads:

The roads will be 7.5m wide with on street parking on both sides. The surface will be paved with 80mm interlocking pavers. The kerb radii at the intersections will be 12m in the industrial area and 8m in the office parks.

Parking will be provided at minimum 1 per hundred 200m<sup>2</sup> GLA as well as loading zones for the industrial area and 4 per 100m<sup>2</sup> GLA for the office parks.

### 3.2 Stormwater

The stormwater network will, where possible follow the Sustainable Urban Stormwater Design (SUDS) guidelines. The network will consist of open channels with swales and polishing ponds as well as catchpits and concrete pipes inside the development area. The stormwater network will be designed to limit the post-development peak flow to the pre-development runoff levels. The swales, polishing and retention ponds will enhance the quality of the stormwater runoff. The channel widths will vary from 1,5m to 3.0m. The stormwater, as well as the treated effluent will discharge into the existing 600mm Ø storm water pipe crossing the railway line and the R45 via a reed bed which will also act as an irrigation pond. The crossing is situated on Erf 1337. The stormwater from the development on Erf 915 will link into the stormwater network on Erf 1337.

### 3.3 Water:

#### 3.3.1 BULK WATER SUPPLY:

Various water sources will be investigated to provide sufficient potable water for the development.

##### a) Boreholes:

There are three boreholes on the two properties. The total tested yield is 47kl/day. The water quality conforms to drinking water standards.

Additional boreholes will have to be developed to provide sufficient volumes for the total development on erven 1337 and 915.

The yield of the existing boreholes can possibly be increased by installing piezometers to monitor the ground water levels in the boreholes to increase the abstraction.

##### b) Wemmershoek Bulk Supply pipeline:

Studies have been done previously to determine the feasibility of sharing the Stellenpack connection on the Wemmershoek pipeline. All the parties, including Drakenstein Municipality, have supported the idea in principle. Further studies, as well as negotiating with landowners on the positioning of the pipeline need to be concluded.

##### c) Drakenstein Municipality Bulk Supply pipeline:

A pipeline network has been designed to supply potable water to Simondium and it's surrounds. The proposed connection point to this pipeline is in the south western corner of the erf.

Recent correspondence from Drakenstein Municipality:

**Andre Kowalewski** <AndreK@drakenstein.gov.za>

Sat, Feb 17, 2018 at 3:17 PM

To: Jacques Snyders <snydersljj@skcm.co.za>

Cc: Malcolm Loubser <loubsermpj@skcm.co.za>, Willem Pretorius <Willem.Pretorius@drakenstein.gov.za>, Hein Henning <Hein.Henning@drakenstein.gov.za>

*Beste Jacques  
Water*

*As jy verwys na die Simondium reservoir en pyplyne projek, gaan dit nog 4 - 7 jaar neem om die eerste fase te voltooi. Alles hang natuurlik ook af of die Muisipaliteit die fondse kan voorsien in die tydperk – prioriteite verander ook.*

*Die gedeelte waar plase 1337/0 en 915/0 val is nie eens binne die 10 jaar begrotingsplan nie. Indien dit vinniger moet plaasvind moet die ontwikkelaars maar nader staan en bydra.*

**Mr. André Kowalewski**  
**Senior Engineer: Water Services**

#### d) Conclusion

We are of the opinion that the connection from the Wemmershoek supply line must be pursued urgently. The development of additional boreholes will also be considered to provide off the grid back-up.

#### 3.3.2 WATER DEMAND:

The water demand from the previously approved industrial area will be 42kl/day for the total development.

The water demand for this development is calculated as follows:

a) Industrial buildings: 9 088m <sup>2</sup> x 2 liters/m <sup>2</sup>	18.2 kl/day.
b) Offices : 7238m <sup>2</sup> x 2.27 liters/m <sup>2</sup>	16.4 kl/day
c) Housing: 12units x 500 liters	<u>6.0 kl/day</u>
	40.6 kl/day

#### 3.3.3 RESERVOIRS:

Storage capacity required, is 48 hours of the average demand. The development will therefore require 80kl of storage. Eight 10kl tanks could be used with a booster pump to provide water at a minimum pressure of 200 kPa.

#### 3.3.4. FIRE WATER:

The development is rated as a moderate fire risk. This implies that a minimum flow of 6 000l/min is required with 4hrs storage capacity. The fire network will require a 1.44 Ml reservoir with a booster pump and standby generator.

Should the water connection from one of the the external supply lines be installed, the required reservoir capacity will be reduced dramatically.

#### **3.4. Sewer:**

The waste water runoff is calculated as being 80% of the water demand:  
40.6kl/day x 80%= 32.48kl/day.

The sewerage network will consist of 160mm uPVC Class 34 sewerage pipes with manholes at regular intervals.

A wastewater treatment package plant will be installed to treat the effluent to general standards. The treated effluent will be used to irrigate the landscaped areas. The treatment works required for this development could be combined with the treatment works for the current development on erf 1337. This will require a single maintenance contract. The combined plant could be operated more efficiently. The combined plant will have a proposed capacity of 66 kl/day.

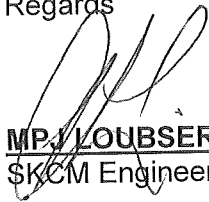
Attached is a report by W2 Africa providing a waste water treatment solution.

### 3.5 Solid Waste:

A contractor will be appointed by the homeowners association to deliver a waste removal service to the closest municipal transfer station in the area.

We trust that you will find the above in order.

Regards



**M.P. LOUBSER PrEng**  
SKCM Engineers

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