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CONSULTING ENGINEERS ELECTRICAL, MECHANICAL, ENERGY

Branch Offices:  
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Our Ref: R4666Z1/L001  
Date: 2019-10-18

Your Ref:

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Attention: **Ms L van Zyl**

Madam

## **STILBAAI: STILBAAI RETIREMENT VILLAGE: ERF 4784** **ELECTRICAL SERVICES REPORT: REV 000**

This report has been compiled by de Villiers & Moore Consulting Engineers, with purpose of informing the team of the extent of the electrical services required to be put into place to provide the electrical supply to the Development.

### **LOCATION**

The Development is situated on erf 4784 in the administrative district of Stilbaai. The extent of the development has been detailed on the architect's drawing, Messrs SDK Architect's, reference Site Plan1733 dated June 2019.

### **SUPPLY AUTHORITY**

The Development is situated in the electrical supply area of the Hessequa Municipality.

### **DRAWINGS**

Attached to this report is drawing R4666Z1-1\_Rev A which details the cable routes, the Municipal point of supply and the point of supply to the Development as well as the existing 11kV underground cable network in the area.

### **EXISTING ELECTRICAL DISTRIBUTION NETWORK**

In order to ascertain the extent of the existing electrical infrastructure in the area, we visited the site on 2019-06-05 and met with the electrical superintendent, Mr S Rust.

The existing 11kV network in the area is shown on the attached drawing and consists of an 120(Cu) 11kV cable feeding from existing transformer SS-A/24A in Palinggat along the northern boundary to existing mini-substation MS-7b.

There are no other electrical services on the property.

**Registered Member : Consulting Engineers South Africa (CESA)**



**DIRECTORS:** R.G. HALL Pr Eng B.Sc. Eng, C.H. KOCH Pr Eng B.Eng, T.H. HEYNS Pr Tech Eng, W.J. BADENHORST Pr Tech Eng  
**ASSOCIATE:** G.F. ARENDSE Pr Tech Eng

## **DEMAND REQUIREMENTS**

Based on the drawing provided by SDK Architects, the maximum demand of the development, once fully developed, is calculated at 560kVA and is calculated as follows:

Free Standing Units	448kVA
Bedsits (2)	24kVA
Bedsits (1)	20kVA
Frail Care Facility	70kVA
Street Lights	3kVA
Other	2kVA

NOTE that this maximum demand takes into account the effect of energy efficient equipment and design.

## **PROPOSED ELECTRICAL DISTRIBUTION NETWORK**

In order to supply the proposed Development, the following bulk electrical reticulation upgrading will be required to be done.

Two mini-substations will be installed at the positions as indicated on the attached drawing, these being the identified load centres of the Development.  
The Retirement Village will be metered on the high voltage side by means of a MV bulk metering unit. The low voltage network will be an underground network complete with distribution kiosks and service connections to the various buildings, pumps etc.  
The area lighting will be by means of post top fittings installed on poles installed along the internal road ways and walkways and placed in keeping with the requirements of a Retirement Village.

## **ENERGY SAVING MEASURES**

The use of the following equipment will be made mandatory

Water and sewage pumps to be supplied with energy efficient motors and motor control.  
Water heating to be done using heat pumps and/or solar units.  
Lighting to make use of LED lamps only.  
Use of motion sensor lighting control.

## **COST ESTIMATE**

A cost estimate for the project will be done in due course.

## **CONCLUSION**

We trust the information provided is of sufficient detail to allow for an informed decision to be made. Please do not hesitate to contact the undersigned should additional information be required.

Yours faithfully



**R G HALL** Pr Eng  
**DE VILLIERS & MOORE (PTY) LTD**

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