



**ELYSEE GARDENS BODY CORPORATE**  
**SS 543 / 1995**  
**P.O. Box 7116, NEWTON PARK, PORT ELIZABETH, 6055**

9 December 2018

**TO: Mr L Spence**

**Subject: Smart Water Meters – Elysee Gardens**

1. Elysee Gardens approved the installation of Automated Water Meters (AWM) at the AGM held on the 12<sup>th</sup> April 2016.
2. The installation of the water meters commenced on the 1<sup>st</sup> July 2016.
3. The selection of the AWM was based on the following:
  - 3.1. Whilst it would be less expensive to fit manually read water meters, this Complex of 138 Units and 2 swimming pools required 2 water meters per unit (two water inlets per unit) and 1 each for the pools, making a total of 278 meters.
    - a) The reading of the manual meters would need to be done at the same time on the same day each month in order for the sum total of all the meters readings to equal the bulk meter readings on that day.
    - b) The manual readings would be done by the Trustees. However if, for whatever reason, 1 or more Trustees were unable to do the readings of the meters allocated to him/her, the sum total of all the read meters would not equal the bulk meter readings. This would result in an inability of the cost per unit from being determined and thus the whole accounting process would collapse. This scenario applies equally to meters read at say 08:00 and then another group read at 17:00, the discrepancy between the totals of the read meters would not equate to the total reading of the bulk meters.
  - 3.2. The automated meters would negate the inconsistencies of the manual readings recorded in 3.1.b).
    - a) The AWM would record the readings of all the meters at the same time or within a 2/3 minute period – depending on the number of meters – and this together with the automated bulk meter readings would be transmitted to the controlling office at the same time.
    - b) The total of all the meter readings would thus equate to the the bulk meter readings.
    - c) Additionally the meters relay hourly readings to the main control office.
    - d) The associated accounting process can calculate the cost of water consumed instantly.
    - e) In addition the AWM could be programmed to give a “Night Flow” reading base on a two hour period from 02:00 to 04:00 for 7 consecutive days. This reading could then be utilised to establish if there were any leaks in the units from leaking toilets etc – most useful in tracking down leaks.
4. Functionality of the AWM at Elysee Gardens.
  - 4.1. The installation of the AWM was completed by the 14<sup>th</sup> July 2016.
  - 4.2. The first reading of the system was taken at midnight on the 15<sup>th</sup> July 2016.
    - a) This initial reading was discarded for accounting purposes as it was used to set the baseline for the system.
    - b) The 1<sup>st</sup> reading used for the accounting process to determine the individual cost of the water used by the individual units was taken on the 15<sup>th</sup> August 2016. This cost was then shown on the Levy Account issued by the Managing Agent.

- c) The date of the readings was dictated by the “Next Reading” date shown on the municipal utilities account, thus enabling the cost of the water used to equal the cost of water shown on the municipal account. There was thus no disruption to the municipal accounting processes.
  - d) The cost of water used includes an apportionment of the “Availability Charge” as well as an apportionment, utilising a water usage index, of the total sewerage cost – the cost of sewerage invoiced by the municipality is directly related to the water usage and this must form part of the cost invoiced on the Levy account.
  - e) The determination of the “cost of water” determined from a Sectional Title Complex budget is by means of the PQ of each Unit, thus a large unit with 1 person would pay a higher cost than a smaller unit with 6 people, notwithstanding the fact that the 6 people would factually use more water than the 1 person. The installation of the meters at the unit and the consequent costing removes the PQ from the calculation and the unit is required to pay for the water used by that unit. A comprehensibly fairer method.
5. The outcome of the decision to fit AWM meters and the associated automated bulk meter readers was vindicated.
- 5.1. Prior to July 2016 the average water usage indicated in the municipal accounts over a period of 90 months averaged at 1820 kl.
  - 5.2. The actual metered water usage by the Units of the Complex averages 786 kl over recent 29 months from August 2016.
  - 5.3. This indicated a leak of some 1034 kl per month in the previous 90 month period!
  - 5.4. This initiated a concentrated programme of leak detection to reduce the leak or leaks causing this loss. The value of the lost water over 90 months at an average of R10/kl would equate to R930,600. This is approximately twice the cost of our AWM installation. Thus the original project presentation, had this cost been known, could have been justified on that saving alone.
  - 5.5. Over the period of 29 months this Complex has experienced a failure of 6 meters primarily as a result of mechanical damage caused by persons unknown. The meter were all replaced with no disruption to the accounting process.
  - 5.6. The AWM meters, which utilise battery power, are thus not affected by load shedding, whilst the transceivers, which collect the readings and transmit them to the control office, allow the readings to be reconciled automatically.
6. The advantages of the AWM meters are that incorrect readings by humans is eliminated; the readings are all recorded with the bulk meter readings within the same time frame; finding human beings in a Complex who are prepared to read the meters is very difficult; the meters also have an alarm mode which indicates on an hourly basis, at the control office, any leaks resulting from the Unit itself.

Regards,



W M Bartie  
Chairman, Board of Trustees  
Unit 65



W A B Rowan  
Vice-Chairman  
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