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## **COMMENT ON WATER AND SANITATION CAPACITY FOR THE PROPOSED RESIDENTIAL AND BUSINESS/COMMERCIAL DEVELOPMENT OF PROTION 5 FARM 1387 NOORDHOEK**

### Background

ICON Consultant Engineers were appointed to investigate and report on the effect of the proposed amendments pertaining to additional offices and as well as the restaurant of the above mentioned property. The amended development framework will consist of 27 residential units, restaurant, winery as well as offices.

This letter provides an overview of the existing water and sewer infrastructure near the development site

**Table 1: Estimated water and sewer demands based engineering service report as provided by Ekcon Consulting Engineers**

Erven	Land use	Potable Water Demand			Sewer Flow*	
		Total AADD (kl/d)	Peak Flow (l/s) (PF=3.0)	Fire Flow (l/s)	Total ADWF (kl/d)	Peak Flow (dry weather) (l/s) (PF=2.5)
<b>Farm 1387 Portion 5 Noordhoek</b>	Residential (27 units)	34.0kl/d	2.1l/s	15.0l/s	23.8kl/d	1.4l/s
	Bus/Comm (6659m <sup>2</sup> )	27.0kl/d			25.7kl/d	
<b>Total</b>		<b>61.0kl/d</b>	<b>2.1l/s</b>	<b>15.0l/s</b>	<b>49.5kl/d</b>	<b>1.4l/s</b>

\*Based on a 70 and 95% sewer flow design criterion

### Water Reticulation

The proposed development falls within the "Brakkloof" water distribution zone.

There is an existing 100mmØ water main along Chapman's Peak Drive with a peak and static head ranging from 50-60m and 80-90m respectively. Taking into account the steep nature of the site, approximate elevation changes from 50m to 116m, low pressures could be experienced as a result

of the existing supply. It is advised that the development utilise an on-site 48hour storage supply which would gravity feed the development. In addition an internal pressure booster would be required to supply the development under fire flow conditions.

Refer to figure 1 for existing water network layout.

#### Bulk Water

No bulk water pipelines or infrastructure under the control of the City of Cape Town's Bulk Water Branch is directly affected by the proposed development.

The bulk supply system has sufficient water resource, treatment, and bulk storage and conveyance capacity to supply the estimated annual average daily demand of 61.0kl/d of the proposed development.

#### Sewer Reticulation

The Wildevoelplei foul sewer pump station is located along Noordhoek Main Road, with a 110mmØ rising main which has a maximum flow of 0.81l/s. This rising main discharges to a 250mmØ collector sewer at intersection of Noordhoek and Silvermine Road. The sewer discharge expected to be generated from the proposed development will have to be pumped to the 250mmØ sewer main at intersection of Noordhoek and Silvermine Road. This collector sewer as well as the existing downstream network has sufficient capacity to accommodate the proposed development.

Refer to figure 2 for the existing sewer network layout.

#### Wastewater treatment

The anticipated wastewater flow from the proposed development has been calculated to be 49.5kl/d.

This proposed development is situated within the catchment of the Wildevoelplei Wastewater Treatment works. This facility has sufficient unallocated spare capacity to accommodate the development.

#### Conclusion

There is sufficient spare capacity within the existing water and sewer network to accommodate the proposed development. The Water and Sanitation Department has no objection to this application provided the following conditions are adhered to.

#### Conditions

The Water and Sanitation Department has no objection to the proposed application provided the following conditions implemented:

1. Development contributions may be payable, to be quantified by the Reticulation District Head.
2. All costs, relating to alterations to the existing water and sewerage systems and the provision of new water and sewer connections, will be for the account of the applicant.

#### Additional Technical Requirements

3. The water and sewer capacities allocated according to this document shall not be reserved if not taken up before the lesser of 5 years or the approved development period.
4. The owner is responsible for application for the new water meter or sewer connection including for relocation, at the standard tariff to the Reticulation District Head.
5. Water and Sanitation municipal services are to be designed according to Departmental Service Standards and be approved prior to construction.
6. Handover of any municipal water and sanitation services will be subject to quality control during construction.

General/ Disclaimer

Information provided is based on best available data. The flows and pressures provided in this comment are theoretical and not measured. Costs provided are estimated and may vary (*if applicable*).

Yours Faithfully

2017/05/26

X 

Signed by: Shamile Manie

On behalf of

**Peter Flower**

**DIRECTOR: WATER & SANITATION DEPARTMENT**

<b>BRANCH</b>	<b>CONTACT PERSON</b>	<b>INPUT PROVIDED</b>
<b>Master Planning</b>	McKaylin Adonis	2017/05/18
<b>Bulk Water</b>	Kevin Balfour	2017/05/18
<b>Reticulation</b>	Gaironesse van Wyk	No comment
<b>Wastewater Treatment</b>	Kevin Samson	ADWF≤1.0MI/d- N/A





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