



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

BASELINE SERVICES REPORT (WATER AND SEWER) FOR 90 PALLOTTI ROAD, KIND DAVID COUNTRY CLUB, CITY OF CAPE TOWN

DG ref: 1193q.884 (Revision 2)

DATED 18/10/2017

1. GENERAL INFORMATION

1.1 Locality

The site under consideration will be the existing King David golf course situated directly west of Cape Town International Airport.

Refer to **Annexure “A”** for a locality plan.

1.2 Land uses

A new “Industrial park” township will be established on the existing golf course.

Land use	Building Area m²
General Industrial (GI 1) (Including warehousing)	329 000
Mixed use (MU) /General business	21 000
Total	350 000

2. PROVISION OF WATER

2.1 Existing water reticulation

There is an existing 150dia and 525dia water pipe available in Palotti road. Cape Town local municipality will have to confirm if sufficient capacities are available.

2.2 Proposed new infrastructure

A new internal network will be designed and constructed for the proposed new industrial park. See drawing 1193-601 attached.

2.3 Water demand for this development

Water demand for General Industrial areas are based on actual measurements taken from similar developments in the Johannesburg and Durban area. Water demand for Mixed Use areas are based on the “Red Book” guideline.

	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	Average	GLA			Weighted avg
	Water (Kl)	Water (Kl)	Water (Kl)	Water (Kl)	Water (Kl)	Water (Kl)	Water (Kl)	m2	kl/m2 pd	kl/100m2 pd	kl/100m2 pd
								182722		0,095	0,100
Orion 1 140 North Reef road				126	269	73	156	6000	0,000867	0,09	
Orion 2 140 North Reef road				139	111	118	123	6215	0,000658	0,07	
Orion 3 140 North Reef road				444	190	142	259	5785	0,00149	0,15	
NSS				143	238	141	174	7045	0,000823	0,08	
Jukskeiview ext 79	1098	1098	1110	1110	1110	1140	1111	64614	0,000573	0,06	
Angleshack, Drager, Tarsus, Cummins, Amrod	132	3857	4258	3666	5561	4429	3651	93063	0,001308	0,13	

Flow calculation:

Water demand

$$\begin{aligned} \text{General Industrial (GI 1)} &= 329\,000 \text{ GLA @ } 0.1\text{kl}/100\text{m}^2/\text{day} = 329 \text{ kl/day} \\ &= \frac{329 \times 1000}{24 \times 3600} = 3.8 \text{ l/s} \end{aligned}$$

$$\begin{aligned} \text{Mixed use (MU)} &= 21\,000 \text{ GLA @ } 0.4\text{kl}/100\text{m}^2/\text{day} = 84 \text{ kl/day} \\ &= \frac{126 \times 1000}{24 \times 3600} = 1.0 \text{ l/s} \end{aligned}$$

$$\text{Total} = 4.8 \text{ l/s}$$

$$\text{Peak factor} = 4.8\text{l/s} \times 3.6 = 17.3 \text{ l/s}$$

$$\text{Fire flow (for reticulation mains)} = 1500 \text{ l/min} = 25 \text{ l/s}$$

2.4 Materials and construction

The materials will be as per Cape Town local municipality specification.

3. SEWAGE RETICULATION

3.1 Existing sewer reticulation

There is an existing 225dia sewer pipe available on the north-western boundary of the proposed development. Cape Town local municipality confirmed that there is not sufficient capacity in the existing sewer line.

The development will have an internal gravity system draining towards the pump station in the north-west corner, which will pump sewer via a new sewer rising main towards the Borchers Quarry.

3.2 Proposed new infrastructure

A new internal network will be designed and constructed to drain the new proposed township that will connect to the sewer pump station. See drawing 1193-701 attached.

3.3 Indicative sewage flow calculations

Sewer discharge figures for General Industrial areas are based on actual water demand measurements taken from similar developments in Johannesburg and Durban area. The sewer flow was taken as 90 % of daily water demand plus an allowance for infiltration. Sewer discharge figures for Mixed Use areas are based on the “Red Book” guideline.

Flow calculation

Sewer outflow

General Industrial (GI 1)	=	329 000 GLA @ 0.09kl/100m ² /day = 296kl/day	
	=	296 x1000 /24 x 3600	= 3.4 l/s
Mixed use (MU)	=	21 000 GLA @ 0.4kl/100m ² /day = 84kl/day	
	=	84 x1000 /24 x 3600	= 1.0 l/s
Total	=	4.4 l/s	
Infiltration	=	4.4 l/s x (15%)	= 5.1 l/s
Peak Factor	=	5.1 l/s x 2.5	= 12.75 l/s

3.4 Materials and construction

The materials will be as per Cape Town local municipality specification.

ANNEXURE “A”

