

## Water Demand

The water reticulation will be designed as per the indicated in the “*Guidelines for the Provision of Engineering Services and Amenities in Residential Township Development*”, the design criteria used is SANS 10252-1. An allowance of 250ℓ/bed/day has been used in the water demand calculations.

The internal water pipes will be sized to cater for the proposed developments peak water demand and fire requirements. The internal water reticulation system will be a pressure main with the twin booster connection and water meter remaining in its current position.

The following are assumed:

1. Demand rates are according to SANS 10252-1
2. Reticulation losses assumed at 20%

### Hotels

Average density	8 Beds x 250ℓ/p/d		2.0 kℓ/d
Add losses (20%)			<u>0.4 kℓ/d</u>
			=2.4 kℓ/d
			=0.028 ℓ/s
Instantaneous peak flow factor (PF)	=	2.5	
Instantaneous peak flow	=	0.028 ℓ/s x 2.5	
	=	<b>0.07 ℓ/s</b>	

### Fire Fighting Requirements

The development can be classified as Low Risk Group 3

Design for fire flow	=	350 ℓ/min/hydrant
	=	6 ℓ/s/hydrant
Duration of fire flow	=	1h
Storage required for firefighting	=	21 kℓ (ground level)
Minimum residual head	=	6m
Location of hydrants	=	240m apart
Number of hydrants discharging	=	1

