

6.9 Design Period and Working Life of New Assets

In general the water distribution networks shall be sized to cover the projected demand of 20 years period and a physical working life of 50 years before condition deterioration. Also the distribution networks may be sized assuming 100 % developments and population occupancy rate within the project area.

6.10 Water Demand

The water demand for new development shall be approved by AADC before proceeding to the preliminary design stage of new water distribution networks. The submission for water demand approval shall include the assumptions used to estimate the demand forecast with breakdown of the calculated demand. It is recommended to estimate the demand according to following demand categories applied by ADWEC/AADC:-

- Domestic demand for villa, shabia, townhouse and apartment
- Domestic landscape demand for villa, shabia and townhouse
- Palace demand
- Irrigation demand (if applicable)
- Other demands (military, industry, etc)
- Unaccounted for water (UFW). The design shall be carried out for a target NRW rate of 10 % of average demand.

The RSB recommended a demand criteria (Table 1.1, Guide to Water Supply Regulations, 2009, RSB) for calculating the size of customer storage tanks and for sizing the service connections. The RSB demand criteria is shown below in table 1.0.

Table 1: Demand Criteria Recommended by the RSB

Type of Premises & consumption Categories	Description	Estimates of daily rate of Consumption (imperial gallons)	Rounded estimates of daily rate of Consumption (litres)
Hotel (1)	hotel (per one bed)	100-150	450-650
Car wash station (CWS)	CWS (per channel)	1000	4500
Hospital	Hospital (per one bed)	100	450
Common market	common market (per square metre)	1.1	5
Mosques	mosques (per squaremetre)	5.5	25
Workers Housing	housing compounds (per capita)	44	200