

Table 1 - Estimation of Water Consumption for Proposed Residential Development at NKT

Unit Demand Assumption

Assumption

Based on Water Supplies Department (WSD) DI No. 1309

Peak Flow Rates:

Fresh Water	=	3 x mean daily demand
Salt Water	=	2 x mean daily demand

Based on 2021 Population Census

Average Domestic Household Size 2.1

Mean Daily Unit Demands given in Table 1 of WSD DI No. 1309

Private Housing - R3	<u>Fresh Water (l/h/d)</u>	<u>Salt Water (l/h/d)</u>
	390	70

Mean Daily Unit Demands given in Table 2 of WSD DI No. 1309

Shop (Retail Trade)	<u>Fresh Water (l/h/d)</u>	<u>Salt Water (l/h/d)</u>
Recreational Facilities (Private)	210	70
Kiosk (Restaurants)	115	70

Proposed Development		<u>Fresh Water</u>	<u>Salt Water</u>
Private Housing - R3			
No. of Units		312	312
Population	(2.1 x Total Unit No.)	656	656
Unit Demand	(litre / head / day)	390	70
Daily Demand	(m ³ / day)	255.84	45.92
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	767.52	91.84
Shop (G/F)			
GFA	(m ³)	536.7	536.7
Worker Density	(No. of Worker per 100m ²)	2.1	2.1
Estimated Nos. of Employee		12	12
Unit Demand	(litre / head / day)	210	70
Daily Demand	(m ³ / day)	2.52	0.84
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	7.56	1.68
Recreational Facilities (2/F & 3/F)			
GFA	(m ³)	1390.2	1390.2
Worker Density	(No. of Worker per 100m ²)	2.3	2.3
Estimated Nos. of Employee		32	32
Unit Demand	(litre / head / day)	210	70
Daily Demand	(m ³ / day)	6.72	2.24
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	20.16	4.48
Kiosk (4/F)			
GFA	(m ³)	10.2	10.2
Worker Density	(No. of Worker per 100m ²)	5.1	5.1
Estimated Nos. of Employee		1	1
Unit Demand	(litre / head / day)	115	70
Daily Demand	(m ³ / day)	0.115	0.07
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	0.345	0.14
Eating Place at G/F of NKT			
GFA	(m ³)	159.6	159.6
Worker Density	(No. of Worker per 100m ²)	5.1	5.1
Estimated Nos. of Employee		9	9
Unit Demand	(litre / head / day)	767.52	91.84
Daily Demand	(m ³ / day)	6.90768	0.82656
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	20.72304	1.65312

Proposed Development (con't)		<u>Fresh Water</u>	<u>Salt Water</u>
Event Space at 1/F of NKT			
GFA	(m ³)	159.6	159.6
Worker Density	(No. of Worker per 100m ²)	2.3	2.3
Estimated Nos. of Employee		4	4
Unit Demand	(litre / head / day)	3	2
Daily Demand	(m ³ / day)	0.012	0.008
Peak Flow Factor		3	2
Peak Flow Demand	(m ³ / day)	0.036	0.016
Green Area			
GFA	(m ³)	876.95	N/A
Unit Demand	(litre / day / m ²)	7	N/A
Daily Demand	(m ³ / day)	6.139	N/A
Peak Flow Factor		3	N/A
Peak Flow Demand	(m ³ / day)	18.416	N/A
Total			
Daily Demand	(m ³ / day)	278.253	49.90456
Peak Flow Demand	(m ³ / day)	834.760	99.80912